

Metal Composite Power Inductors MPXV

Automotive Grade



Overview

The KEMET MPXV metal composite inductors are ideal for use in DC to DC switching power supplies for automotive applications. The metal composite core has high saturation characteristics maintaining function in rush current mode and characterized by temperature stable inductance.

Applications

Automotive ECU applications such as:

- LED headlights
- Meter cluster panels
- Head-up displays (HUD)
- Electric water pumps (EWP)
- Electric oil pumps (EOP)
- Electric power steering (EPS)

Benefits

- Metal composite powder
- Shielded construction, SMD configuration
- Inductance range from 0.10 to 100.00 μH
- Operating temperature up to +155°C
- Low acoustic noise
- Low magnetic flux leakage
- AEC-Q200 qualified



Part Number System

| MPX | 1 | D0520 | | L | 1R5 |
|--------|---------|--|---|----------|--|
| Series | Version | Size Code | | Inductor | Inductance Code μH |
| MPXV | 1 | D0520 = 5x5x2.0 mm D0530 = 5x5x3.0 mm D0618 = 6x6x1.8 mm D0624 = 6x6x2.4 mm D0630 = 6x6x3.0 mm D0650 = 6x6x5.0 mm D0830 = 8x8x3.0 mm D0840 = 8x8x4.0 mm | D1040 = 10x10x4.0 mm D1054 = 10x10x5.4 mm D1235 = 12x12x3.5 mm D1250 = 12x12x5.0 mm D1264 = 12x12x6.4 mm D1740 = 17x17x4.0 mm D1770 = 17x17x7.0 mm D2213 = 22x22x13.0 mm | | <p>The first two digits represent the inductance value. The third digit indicates the number of zeros to be added. R = decimal point</p> <p>Examples: 100 = 10.00 μH R68 = 0.68 μH 1R5 = 1.50 μH 101 = 100.00 μH</p> |

Performance Characteristics

| Item | Performance Characteristics |
|---------------------------|---|
| Operating Temperature | -55°C to +155°C (including self-temperature rise) |
| Rated Inductance Range | 0.10 – 100.00 µH at 100 kHz, 1 mA |
| Inductance Tolerance | ±20% |
| Rated DC Resistance Range | 0.48 – 341.2 mΩ maximum |
| Rated Current Range | 2 – 90 A |

Table 1 – Ratings & Part Number Reference

| Part Number | Inductance (µH) at 100 kHz, 1 mA | Inductance Tolerance | DC Resistance (mΩ) Typical | DC Resistance (mΩ) Maximum | Rated Current (A) | | | Self-Resonance Frequency (MHz) |
|-----------------|----------------------------------|----------------------|----------------------------|----------------------------|---|---|---|--------------------------------|
| | | | | | I _{rms} ¹ (Reference) | I _{sat} ² (Reference) | I _{sat} ³ (Reference) | |
| MPXV1D0520LR15 | 0.15 | ±20% | 3.40 | 3.90 | 16.9 | 15.5 | 22.0 | 190.0 |
| MPXV1D0520LR22 | 0.22 | ±20% | 4.30 | 5.00 | 15.0 | 14.5 | 19.0 | 150.0 |
| MPXV1D0520LR33 | 0.33 | ±20% | 5.30 | 6.20 | 13.4 | 11.0 | 16.0 | 110.0 |
| MPXV1D0520LR47 | 0.47 | ±20% | 6.70 | 7.80 | 12.0 | 9.0 | 14.0 | 87.0 |
| MPXV1D0520LR68 | 0.68 | ±20% | 10.60 | 12.20 | 9.5 | 7.5 | 11.0 | 74.0 |
| MPXV1D0520LR1R0 | 1.00 | ±20% | 16.40 | 18.90 | 7.6 | 7.0 | 9.0 | 62.0 |
| MPXV1D0520LR1R5 | 1.50 | ±20% | 30.90 | 35.60 | 5.6 | 4.5 | 7.0 | 44.0 |
| MPXV1D0520LR2R2 | 2.20 | ±20% | 35.10 | 40.40 | 5.2 | 4.5 | 6.5 | 39.0 |
| MPXV1D0520LR3R3 | 3.30 | ±20% | 55.80 | 64.20 | 4.1 | 3.5 | 5.5 | 34.0 |
| MPXV1D0520LR4R7 | 4.70 | ±20% | 84.00 | 96.60 | 3.4 | 3.5 | 4.5 | 26.0 |
| MPXV1D0520LR6R8 | 6.80 | ±20% | 113.40 | 130.50 | 2.9 | 2.5 | 4.0 | 22.0 |
| MPXV1D0520LR100 | 10.00 | ±20% | 193.70 | 222.80 | 2.2 | 2.5 | 3.5 | 20.0 |
| MPXV1D0530LR15 | 0.15 | ±20% | 2.40 | 2.80 | 22.0 | 15.0 | 21.0 | 180.0 |
| MPXV1D0530LR22 | 0.22 | ±20% | 3.40 | 3.90 | 18.4 | 11.0 | 16.0 | 140.0 |
| MPXV1D0530LR33 | 0.33 | ±20% | 4.50 | 5.20 | 16.0 | 10.5 | 15.0 | 110.0 |
| MPXV1D0530LR47 | 0.47 | ±20% | 6.00 | 6.90 | 13.8 | 9.0 | 13.0 | 91.0 |
| MPXV1D0530LR68 | 0.68 | ±20% | 7.10 | 8.20 | 12.6 | 8.0 | 12.0 | 70.0 |
| MPXV1D0530LR1R0 | 1.00 | ±20% | 10.00 | 11.50 | 10.7 | 7.5 | 10.5 | 52.0 |
| MPXV1D0530LR1R5 | 1.50 | ±20% | 15.30 | 17.70 | 8.6 | 5.5 | 8.0 | 45.0 |
| MPXV1D0530LR2R2 | 2.20 | ±20% | 21.40 | 24.60 | 7.3 | 4.5 | 6.5 | 35.0 |
| MPXV1D0530LR3R3 | 3.30 | ±20% | 37.20 | 42.80 | 5.5 | 4.0 | 5.5 | 29.0 |
| MPXV1D0530LR4R7 | 4.70 | ±20% | 54.10 | 62.20 | 4.6 | 3.0 | 4.5 | 26.0 |
| MPXV1D0530LR6R8 | 6.80 | ±20% | 93.70 | 107.80 | 3.5 | 2.5 | 4.0 | 23.0 |
| MPXV1D0530LR100 | 10.00 | ±20% | 121.80 | 140.10 | 3.1 | 2.5 | 3.5 | 18.0 |
| MPXV1D0530LR150 | 15.00 | ±20% | 186.50 | 214.60 | 2.5 | 2.0 | 3.0 | 15.0 |
| MPXV1D0530LR220 | 22.00 | ±20% | 296.60 | 341.20 | 2.0 | 1.8 | 2.5 | 12.0 |
| MPXV1D0618LR10 | 0.10 | ±20% | 2.40 | 2.80 | 18.9 | 22.5 | 40.0 | 230.0 |
| MPXV1D0618LR15 | 0.15 | ±20% | 3.20 | 3.80 | 16.2 | 20.0 | 30.0 | 170.0 |
| MPXV1D0618LR22 | 0.22 | ±20% | 4.60 | 5.30 | 13.7 | 16.0 | 26.0 | 140.0 |
| Part Number | Inductance (µH) at 100 kHz, 1 mA | Inductance Tolerance | DC Resistance (mΩ) Typical | DC Resistance (mΩ) Maximum | I _{rms} ¹ | I _{sat} ² | I _{sat} ³ | Self-Resonance Frequency (MHz) |
| | | | | | Rated Current (A) | | | |

¹ T = 40 K rise at rated current

² Inductance drop 20% at rated current

³ Inductance drop 30% at rated current

All electrical characteristics data is referenced to 25°C.

Table 1 – Ratings & Part Number Reference cont.

| Part Number | Inductance (µH) at 100 kHz, 1 mA | Inductance Tolerance | DC Resistance (mΩ) Typical | DC Resistance (mΩ) Maximum | Rated Current (A) | | | Self-Resonance Frequency (MHz) |
|-----------------|----------------------------------|----------------------|----------------------------|----------------------------|---|---|---|--------------------------------|
| | | | | | I _{rms} ¹ (Reference) | I _{sat} ² (Reference) | I _{sat} ³ (Reference) | |
| MPXV1D0618LR33 | 0.33 | ±20% | 5.30 | 6.10 | 12.7 | 15.0 | 20.0 | 96.0 |
| MPXV1D0618LR47 | 0.47 | ±20% | 7.40 | 8.50 | 10.7 | 11.0 | 17.0 | 95.0 |
| MPXV1D0618LR68 | 0.68 | ±20% | 11.00 | 12.70 | 8.8 | 9.0 | 13.0 | 95.0 |
| MPXV1D0618LR1R0 | 1.00 | ±20% | 16.70 | 19.30 | 7.1 | 8.0 | 11.0 | 55.0 |
| MPXV1D0618LR5 | 1.50 | ±20% | 22.40 | 25.80 | 6.2 | 6.5 | 10.5 | 40.0 |
| MPXV1D0618LR2R2 | 2.20 | ±20% | 29.40 | 33.80 | 5.4 | 6.0 | 9.0 | 39.0 |
| MPXV1D0618LR3R3 | 3.30 | ±20% | 53.40 | 61.50 | 4.0 | 4.5 | 6.5 | 30.0 |
| MPXV1D0618LR4R7 | 4.70 | ±20% | 72.50 | 83.40 | 3.4 | 4.0 | 6.0 | 26.0 |
| MPXV1D0624LR10 | 0.10 | ±20% | 1.50 | 1.80 | 26.6 | 25.0 | 42.0 | 210.0 |
| MPXV1D0624LR15 | 0.15 | ±20% | 2.00 | 2.30 | 23.2 | 20.5 | 37.0 | 130.0 |
| MPXV1D0624LR22 | 0.22 | ±20% | 2.80 | 3.30 | 19.4 | 19.5 | 29.0 | 120.0 |
| MPXV1D0624LR33 | 0.33 | ±20% | 3.60 | 4.20 | 17.2 | 17.5 | 22.5 | 91.0 |
| MPXV1D0624LR47 | 0.47 | ±20% | 4.50 | 5.20 | 15.4 | 14.5 | 20.0 | 71.0 |
| MPXV1D0624LR68 | 0.68 | ±20% | 6.70 | 7.80 | 12.6 | 11.5 | 16.0 | 57.0 |
| MPXV1D0624LR1R0 | 1.00 | ±20% | 9.10 | 10.50 | 10.8 | 9.0 | 13.0 | 46.0 |
| MPXV1D0624LR5 | 1.50 | ±20% | 16.10 | 18.50 | 8.1 | 7.0 | 10.0 | 43.0 |
| MPXV1D0624LR2R2 | 2.20 | ±20% | 26.60 | 30.70 | 6.3 | 6.0 | 9.0 | 34.0 |
| MPXV1D0624LR3R3 | 3.30 | ±20% | 29.40 | 33.80 | 6.0 | 5.0 | 8.0 | 27.0 |
| MPXV1D0624LR4R7 | 4.70 | ±20% | 44.00 | 50.60 | 4.9 | 5.5 | 6.5 | 22.0 |
| MPXV1D0624LR6R8 | 6.80 | ±20% | 58.60 | 67.40 | 4.3 | 4.5 | 5.5 | 18.0 |
| MPXV1D0624LR100 | 10.00 | ±20% | 98.40 | 113.20 | 3.3 | 3.5 | 4.5 | 16.0 |
| MPXV1D0630LR10 | 0.10 | ±20% | 1.30 | 1.50 | 31.1 | 35.0 | 50.0 | 200.0 |
| MPXV1D0630LR15 | 0.15 | ±20% | 1.60 | 1.90 | 27.6 | 24.0 | 40.0 | 130.0 |
| MPXV1D0630LR22 | 0.22 | ±20% | 2.20 | 2.60 | 23.3 | 22.0 | 33.0 | 110.0 |
| MPXV1D0630LR33 | 0.33 | ±20% | 2.70 | 3.20 | 21.1 | 17.0 | 25.0 | 84.0 |
| MPXV1D0630LR47 | 0.47 | ±20% | 3.50 | 4.00 | 18.7 | 15.0 | 21.0 | 70.0 |
| MPXV1D0630LR68 | 0.68 | ±20% | 5.30 | 6.20 | 15.1 | 11.5 | 17.0 | 55.0 |
| MPXV1D0630LR1R0 | 1.00 | ±20% | 7.10 | 8.20 | 13.1 | 9.0 | 13.0 | 43.0 |
| MPXV1D0630LR5 | 1.50 | ±20% | 11.00 | 12.70 | 10.5 | 7.0 | 11.0 | 38.0 |
| MPXV1D0630LR2R2 | 2.20 | ±20% | 15.90 | 18.30 | 8.7 | 6.5 | 9.0 | 30.0 |
| MPXV1D0630LR3R3 | 3.30 | ±20% | 26.30 | 30.30 | 6.8 | 5.0 | 7.0 | 26.0 |
| MPXV1D0630LR4R7 | 4.70 | ±20% | 31.80 | 36.70 | 6.2 | 4.5 | 6.5 | 21.0 |
| MPXV1D0630LR6R8 | 6.80 | ±20% | 44.20 | 50.90 | 5.2 | 4.0 | 5.5 | 16.0 |
| MPXV1D0630LR100 | 10.00 | ±20% | 67.80 | 78.00 | 4.2 | 3.5 | 4.5 | 15.0 |
| MPXV1D0630LR150 | 15.00 | ±20% | 113.20 | 130.20 | 3.3 | 3.0 | 4.0 | 13.0 |
| MPXV1D0630LR220 | 22.00 | ±20% | 162.00 | 186.30 | 2.7 | 2.5 | 3.5 | 9.6 |
| MPXV1D0650LR68 | 0.68 | ±20% | 3.60 | 4.10 | 18.8 | 12.0 | 17.0 | 54.0 |
| Part Number | Inductance (µH) at 100 kHz, 1 mA | Inductance Tolerance | DC Resistance (mΩ) Typical | DC Resistance (mΩ) Maximum | I _{rms} ¹ | I _{sat} ² | I _{sat} ³ | Self-Resonance Frequency (MHz) |
| | | | | | Rated Current (A) | | | |

¹ T = 40 K rise at rated current

² Inductance drop 20% at rated current

³ Inductance drop 30% at rated current

All electrical characteristics data is referenced to 25°C.

Table 1 – Ratings & Part Number Reference cont.

| Part Number | Inductance (µH) at 100 kHz, 1 mA | Inductance Tolerance | DC Resistance (mΩ) Typical | DC Resistance (mΩ) Maximum | Rated Current (A) | | | Self-Resonance Frequency (MHz) |
|----------------|----------------------------------|----------------------|----------------------------|----------------------------|---|---|---|--------------------------------|
| | | | | | I _{rms} ¹ (Reference) | I _{sat} ² (Reference) | I _{sat} ³ (Reference) | |
| MPXV1D0650L1R0 | 1.00 | ±20% | 5.10 | 6.00 | 15.6 | 9.0 | 13.0 | 42.0 |
| MPXV1D0650L1R5 | 1.50 | ±20% | 7.20 | 8.30 | 13.2 | 7.5 | 12.0 | 35.0 |
| MPXV1D0650L2R2 | 2.20 | ±20% | 10.00 | 11.60 | 11.2 | 7.0 | 10.0 | 30.0 |
| MPXV1D0650L3R3 | 3.30 | ±20% | 16.40 | 18.90 | 8.7 | 5.0 | 8.0 | 26.0 |
| MPXV1D0650L4R7 | 4.70 | ±20% | 27.80 | 32.00 | 6.7 | 4.5 | 6.5 | 19.0 |
| MPXV1D0650L6R8 | 6.80 | ±20% | 38.40 | 44.20 | 5.7 | 4.0 | 5.5 | 17.0 |
| MPXV1D0650L100 | 10.00 | ±20% | 53.40 | 61.40 | 4.8 | 3.5 | 4.5 | 13.0 |
| MPXV1D0830LR22 | 0.22 | ±20% | 1.60 | 1.90 | 30.7 | 27.0 | 43.0 | 140.0 |
| MPXV1D0830LR33 | 0.33 | ±20% | 2.30 | 2.70 | 25.8 | 22.5 | 35.0 | 83.0 |
| MPXV1D0830LR47 | 0.47 | ±20% | 2.70 | 3.10 | 24.0 | 20.5 | 30.0 | 80.0 |
| MPXV1D0830LR68 | 0.68 | ±20% | 3.80 | 4.40 | 20.1 | 20.0 | 28.0 | 55.0 |
| MPXV1D0830L1R0 | 1.00 | ±20% | 5.00 | 5.70 | 17.6 | 16.0 | 23.0 | 46.0 |
| MPXV1D0830L1R5 | 1.50 | ±20% | 7.90 | 9.10 | 14.0 | 13.0 | 18.0 | 37.0 |
| MPXV1D0830L2R2 | 2.20 | ±20% | 11.80 | 13.60 | 11.4 | 11.0 | 14.0 | 30.0 |
| MPXV1D0830L3R3 | 3.30 | ±20% | 19.40 | 22.30 | 8.9 | 9.0 | 12.5 | 24.0 |
| MPXV1D0830L4R7 | 4.70 | ±20% | 25.80 | 29.70 | 7.7 | 7.5 | 10.5 | 18.0 |
| MPXV1D0830L6R8 | 6.80 | ±20% | 32.90 | 37.90 | 6.8 | 7.5 | 10.0 | 16.0 |
| MPXV1D0830L100 | 10.00 | ±20% | 53.60 | 61.70 | 5.4 | 5.5 | 8.0 | 12.0 |
| MPXV1D0830L150 | 15.00 | ±20% | 82.30 | 94.60 | 4.3 | 4.5 | 6.5 | 11.0 |
| MPXV1D0830L220 | 22.00 | ±20% | 116.90 | 134.50 | 3.6 | 3.5 | 5.0 | 8.1 |
| MPXV1D0830L330 | 33.00 | ±20% | 199.60 | 229.50 | 2.8 | 3.0 | 4.0 | 6.9 |
| MPXV1D0840LR22 | 0.22 | ±20% | 1.20 | 1.50 | 35.4 | 35.0 | 53.0 | 100.0 |
| MPXV1D0840LR33 | 0.33 | ±20% | 2.00 | 2.40 | 27.7 | 30.0 | 45.0 | 77.0 |
| MPXV1D0840LR47 | 0.47 | ±20% | 2.30 | 2.70 | 25.8 | 26.0 | 38.0 | 59.0 |
| MPXV1D0840LR68 | 0.68 | ±20% | 3.10 | 3.60 | 22.4 | 20.5 | 30.0 | 46.0 |
| MPXV1D0840L1R0 | 1.00 | ±20% | 3.60 | 4.20 | 20.8 | 19.5 | 28.0 | 40.0 |
| MPXV1D0840L1R5 | 1.50 | ±20% | 5.80 | 6.80 | 16.2 | 14.0 | 19.0 | 29.0 |
| MPXV1D0840L2R2 | 2.20 | ±20% | 7.50 | 8.70 | 14.3 | 13.0 | 17.0 | 27.0 |
| MPXV1D0840L3R3 | 3.30 | ±20% | 12.10 | 14.00 | 11.3 | 11.0 | 15.0 | 22.0 |
| MPXV1D0840L4R7 | 4.70 | ±20% | 20.40 | 23.50 | 8.7 | 7.5 | 11.0 | 17.0 |
| MPXV1D0840L6R8 | 6.80 | ±20% | 29.00 | 33.40 | 7.3 | 6.5 | 9.0 | 13.0 |
| MPXV1D0840L100 | 10.00 | ±20% | 43.10 | 49.60 | 6.0 | 5.5 | 7.5 | 12.0 |
| MPXV1D0840L150 | 15.00 | ±20% | 56.50 | 65.00 | 5.2 | 4.5 | 6.5 | 9.0 |
| MPXV1D0840L220 | 22.00 | ±20% | 85.40 | 98.30 | 4.2 | 4.0 | 5.5 | 7.7 |
| MPXV1D0840L330 | 33.00 | ±20% | 134.10 | 154.20 | 3.4 | 3.5 | 4.5 | 6.2 |
| MPXV1D0840L470 | 47.00 | ±20% | 197.10 | 226.70 | 2.8 | 2.5 | 3.5 | 5.7 |
| MPXV1D1040LR22 | 0.22 | ±20% | 1.40 | 1.60 | 32.7 | 40.0 | 60.0 | 108.0 |
| Part Number | Inductance (µH) at 100 kHz, 1 mA | Inductance Tolerance | DC Resistance (mΩ) Typical | DC Resistance (mΩ) Maximum | Rated Current (A) | | | Self-Resonance Frequency (MHz) |
| | | | | | I _{rms} ¹ | I _{sat} ² | I _{sat} ³ | |

¹ T = 40 K rise at rated current

² Inductance drop 20% at rated current

³ Inductance drop 30% at rated current

All electrical characteristics data is referenced to 25°C.

Table 1 – Ratings & Part Number Reference cont.

| Part Number | Inductance (µH) at 100 kHz, 1 mA | Inductance Tolerance | DC Resistance (mΩ) Typical | DC Resistance (mΩ) Maximum | Rated Current (A) | | | Self-Resonance Frequency (MHz) |
|-----------------|----------------------------------|----------------------|----------------------------|----------------------------|---|---|---|--------------------------------|
| | | | | | I _{rms} ¹ (Reference) | I _{sat} ² (Reference) | I _{sat} ³ (Reference) | |
| MPXV1D1040LR33 | 0.33 | ±20% | 1.60 | 1.90 | 29.7 | 31.0 | 47.0 | 75.0 |
| MPXV1D1040LR47 | 0.47 | ±20% | 2.10 | 2.40 | 26.4 | 29.0 | 42.0 | 65.0 |
| MPXV1D1040LR68 | 0.68 | ±20% | 2.70 | 3.20 | 23.1 | 23.0 | 34.5 | 47.0 |
| MPXV1D1040LR1R0 | 1.00 | ±20% | 3.30 | 3.80 | 21.1 | 19.5 | 29.0 | 35.0 |
| MPXV1D1040LR1R5 | 1.50 | ±20% | 4.60 | 5.40 | 17.7 | 18.0 | 26.0 | 30.0 |
| MPXV1D1040LR2R2 | 2.20 | ±20% | 6.80 | 7.90 | 14.6 | 13.0 | 18.5 | 23.0 |
| MPXV1D1040LR3R3 | 3.30 | ±20% | 11.10 | 12.80 | 11.4 | 11.0 | 15.0 | 18.0 |
| MPXV1D1040LR4R7 | 4.70 | ±20% | 13.80 | 15.90 | 10.3 | 10.0 | 14.0 | 17.0 |
| MPXV1D1040LR6R8 | 6.80 | ±20% | 20.90 | 24.10 | 8.3 | 8.0 | 11.5 | 14.0 |
| MPXV1D1040LR100 | 10.00 | ±20% | 29.60 | 34.10 | 7.0 | 7.5 | 10.5 | 11.0 |
| MPXV1D1040LR150 | 15.00 | ±20% | 44.50 | 51.20 | 5.7 | 5.5 | 8.5 | 8.0 |
| MPXV1D1040LR220 | 22.00 | ±20% | 66.20 | 76.10 | 4.7 | 5.0 | 7.0 | 7.0 |
| MPXV1D1040LR330 | 33.00 | ±20% | 104.10 | 119.70 | 3.7 | 3.5 | 5.0 | 5.0 |
| MPXV1D1040LR470 | 47.00 | ±20% | 158.80 | 182.60 | 3.0 | 3.0 | 4.0 | 4.5 |
| MPXV1D1054LR33 | 0.33 | ±20% | 1.10 | 1.27 | 37.3 | 45.0 | 60.0 | 56.0 |
| MPXV1D1054LR47 | 0.47 | ±20% | 1.60 | 1.84 | 30.9 | 39.0 | 51.0 | 46.0 |
| MPXV1D1054LR68 | 0.68 | ±20% | 2.00 | 2.30 | 27.6 | 27.0 | 37.5 | 38.0 |
| MPXV1D1054LR1R0 | 1.00 | ±20% | 2.90 | 3.34 | 22.9 | 20.0 | 27.0 | 31.0 |
| MPXV1D1054LR2R2 | 2.20 | ±20% | 4.70 | 5.41 | 18.0 | 12.0 | 16.5 | 21.0 |
| MPXV1D1054LR3R3 | 3.30 | ±20% | 7.30 | 8.40 | 14.4 | 11.0 | 15.0 | 17.0 |
| MPXV1D1054LR4R7 | 4.70 | ±20% | 11.90 | 13.69 | 11.3 | 10.0 | 14.0 | 14.0 |
| MPXV1D1054LR100 | 10.00 | ±20% | 24.00 | 27.60 | 7.9 | 8.5 | 12.0 | 9.5 |
| MPXV1D1054LR150 | 15.00 | ±20% | 34.00 | 39.10 | 6.7 | 8.0 | 11.0 | 7.5 |
| MPXV1D1054LR220 | 22.00 | ±20% | 47.00 | 54.05 | 5.7 | 5.0 | 7.0 | 6.5 |
| MPXV1D1054LR330 | 33.00 | ±20% | 70.00 | 80.50 | 4.6 | 4.4 | 6.0 | 5.0 |
| MPXV1D1054LR470 | 47.00 | ±20% | 112.00 | 128.80 | 3.7 | 3.4 | 4.6 | 4.0 |
| MPXV1D1235LR15 | 0.15 | ±20% | 1.10 | 1.30 | 39.9 | 54.0 | 85.0 | 128.0 |
| MPXV1D1235LR22 | 0.22 | ±20% | 1.30 | 1.60 | 35.2 | 50.0 | 75.0 | 100.0 |
| MPXV1D1235LR33 | 0.33 | ±20% | 1.50 | 1.80 | 33.4 | 40.0 | 55.0 | 63.0 |
| MPXV1D1235LR47 | 0.47 | ±20% | 2.00 | 2.30 | 28.9 | 31.0 | 45.0 | 58.0 |
| MPXV1D1235LR68 | 0.68 | ±20% | 2.50 | 2.90 | 25.9 | 28.0 | 40.0 | 46.0 |
| MPXV1D1235LR1R0 | 1.00 | ±20% | 3.60 | 4.20 | 21.5 | 22.0 | 32.5 | 33.0 |
| MPXV1D1235LR1R5 | 1.50 | ±20% | 5.20 | 6.00 | 17.9 | 19.0 | 28.0 | 29.0 |
| MPXV1D1235LR2R2 | 2.20 | ±20% | 7.30 | 8.40 | 15.2 | 15.5 | 23.0 | 21.0 |
| MPXV1D1235LR3R3 | 3.30 | ±20% | 10.60 | 12.20 | 12.5 | 12.0 | 18.0 | 18.0 |
| MPXV1D1235LR4R7 | 4.70 | ±20% | 14.20 | 16.40 | 10.9 | 11.5 | 17.5 | 14.0 |
| MPXV1D1235LR6R8 | 6.80 | ±20% | 18.80 | 21.70 | 9.4 | 9.5 | 14.0 | 12.0 |
| Part Number | Inductance (µH) at 100 kHz, 1 mA | Inductance Tolerance | DC Resistance (mΩ) Typical | DC Resistance (mΩ) Maximum | I _{rms} ¹ | I _{sat} ² | I _{sat} ³ | Self-Resonance Frequency (MHz) |
| | | | | | Rated Current (A) | | | |

¹ T = 40 K rise at rated current

² Inductance drop 20% at rated current

³ Inductance drop 30% at rated current

All electrical characteristics data is referenced to 25°C.

Table 1 – Ratings & Part Number Reference cont.

| Part Number | Inductance (µH) at 100 kHz, 1 mA | Inductance Tolerance | DC Resistance (mΩ) Typical | DC Resistance (mΩ) Maximum | Rated Current (A) | | | Self-Resonance Frequency (MHz) |
|----------------|----------------------------------|----------------------|----------------------------|----------------------------|---|---|---|--------------------------------|
| | | | | | I _{rms} ¹ (Reference) | I _{sat} ² (Reference) | I _{sat} ³ (Reference) | |
| MPXV1D1235L100 | 10.00 | ±20% | 30.40 | 35.00 | 7.4 | 8.5 | 12.0 | 9.5 |
| MPXV1D1250LR22 | 0.22 | ±20% | 1.00 | 1.20 | 42.7 | 55.0 | 85.0 | 95.0 |
| MPXV1D1250LR33 | 0.33 | ±20% | 1.10 | 1.30 | 41.6 | 45.0 | 65.0 | 68.0 |
| MPXV1D1250LR47 | 0.47 | ±20% | 1.50 | 1.80 | 34.8 | 37.0 | 55.0 | 54.0 |
| MPXV1D1250LR68 | 0.68 | ±20% | 1.70 | 2.00 | 32.7 | 30.0 | 45.0 | 45.0 |
| MPXV1D1250L1R0 | 1.00 | ±20% | 2.20 | 2.60 | 28.8 | 30.5 | 43.0 | 34.0 |
| MPXV1D1250L1R5 | 1.50 | ±20% | 3.10 | 3.60 | 24.2 | 22.0 | 32.0 | 25.0 |
| MPXV1D1250L2R2 | 2.20 | ±20% | 4.10 | 4.80 | 21.0 | 20.0 | 28.5 | 21.0 |
| MPXV1D1250L3R3 | 3.30 | ±20% | 6.40 | 7.40 | 16.8 | 15.0 | 22.0 | 17.0 |
| MPXV1D1250L4R7 | 4.70 | ±20% | 8.80 | 10.10 | 14.4 | 12.0 | 17.5 | 13.0 |
| MPXV1D1250L6R8 | 6.80 | ±20% | 13.40 | 15.50 | 11.6 | 10.0 | 14.0 | 10.0 |
| MPXV1D1250L100 | 10.00 | ±20% | 17.90 | 20.60 | 10.1 | 9.0 | 13.5 | 8.5 |
| MPXV1D1250L150 | 15.00 | ±20% | 26.80 | 30.80 | 8.2 | 7.5 | 11.0 | 7.0 |
| MPXV1D1250L220 | 22.00 | ±20% | 40.10 | 46.20 | 6.7 | 6.5 | 9.0 | 6.5 |
| MPXV1D1250L330 | 33.00 | ±20% | 62.60 | 72.00 | 5.4 | 5.0 | 7.5 | 5.0 |
| MPXV1D1250L470 | 47.00 | ±20% | 91.60 | 105.40 | 4.5 | 4.0 | 5.5 | 4.0 |
| MPXV1D1250L680 | 68.00 | ±20% | 141.70 | 163.00 | 3.6 | 3.0 | 4.5 | 3.0 |
| MPXV1D1264LR22 | 0.22 | ±20% | 0.90 | 1.10 | 53.0 | 68.0 | 100.0 | 90.0 |
| MPXV1D1264LR33 | 0.33 | ±20% | 1.00 | 1.20 | 45.6 | 48.0 | 70.0 | 61.0 |
| MPXV1D1264LR47 | 0.47 | ±20% | 1.40 | 1.70 | 38.2 | 40.0 | 58.0 | 53.0 |
| MPXV1D1264LR68 | 0.68 | ±20% | 1.70 | 1.90 | 35.4 | 34.0 | 50.0 | 45.0 |
| MPXV1D1264L1R0 | 1.00 | ±20% | 2.00 | 2.30 | 32.2 | 30.0 | 45.0 | 30.0 |
| MPXV1D1264L1R5 | 1.50 | ±20% | 2.50 | 2.90 | 28.8 | 25.0 | 35.5 | 24.0 |
| MPXV1D1264L2R2 | 2.20 | ±20% | 3.20 | 3.70 | 25.4 | 23.0 | 32.0 | 20.0 |
| MPXV1D1264L3R3 | 3.30 | ±20% | 5.30 | 6.20 | 19.7 | 16.5 | 22.5 | 16.0 |
| MPXV1D1264L4R7 | 4.70 | ±20% | 7.10 | 8.20 | 17.1 | 14.0 | 19.5 | 13.0 |
| MPXV1D1264L6R8 | 6.80 | ±20% | 10.60 | 12.30 | 14.0 | 11.5 | 16.0 | 10.0 |
| MPXV1D1264L100 | 10.00 | ±20% | 14.00 | 16.10 | 12.2 | 10.0 | 14.0 | 8.5 |
| MPXV1D1264L150 | 15.00 | ±20% | 21.60 | 24.90 | 9.8 | 8.0 | 11.5 | 6.5 |
| MPXV1D1264L220 | 22.00 | ±20% | 30.50 | 35.10 | 8.2 | 7.0 | 9.5 | 5.5 |
| MPXV1D1740LR47 | 0.47 | ±20% | 1.50 | 1.80 | 34.0 | 52.0 | 75.0 | 46.0 |
| MPXV1D1740LR68 | 0.68 | ±20% | 1.70 | 2.00 | 32.0 | 37.0 | 55.0 | 38.0 |
| MPXV1D1740L1R0 | 1.00 | ±20% | 2.00 | 2.30 | 30.0 | 28.0 | 43.0 | 30.0 |
| MPXV1D1740L1R5 | 1.50 | ±20% | 3.30 | 3.80 | 23.5 | 19.5 | 28.0 | 24.0 |
| MPXV1D1740L2R2 | 2.20 | ±20% | 4.30 | 5.00 | 20.5 | 19.5 | 28.0 | 17.0 |
| MPXV1D1740L3R3 | 3.30 | ±20% | 7.00 | 8.10 | 16.5 | 18.0 | 27.5 | 14.0 |
| MPXV1D1740L4R7 | 4.70 | ±20% | 9.00 | 10.40 | 14.5 | 13.0 | 18.5 | 12.0 |
| Part Number | Inductance (µH) at 100 kHz, 1 mA | Inductance Tolerance | DC Resistance (mΩ) Typical | DC Resistance (mΩ) Maximum | I _{rms} ¹ | I _{sat} ² | I _{sat} ³ | Self-Resonance Frequency (MHz) |
| | | | | | Rated Current (A) | | | |

¹ T = 40 K rise at rated current

² Inductance drop 20% at rated current

³ Inductance drop 30% at rated current

All electrical characteristics data is referenced to 25°C.

Table 1 – Ratings & Part Number Reference cont.

| Part Number | Inductance (µH) at 100 kHz, 1 mA | Inductance Tolerance | DC Resistance (mΩ) Typical | DC Resistance (mΩ) Maximum | Rated Current (A) | | | Self-Resonance Frequency (MHz) |
|----------------|----------------------------------|----------------------|----------------------------|----------------------------|---|---|---|--------------------------------|
| | | | | | I _{rms} ¹ (Reference) | I _{sat} ² (Reference) | I _{sat} ³ (Reference) | |
| MPXV1D1740L6R8 | 6.80 | ±20% | 13.80 | 15.90 | 11.5 | 12.0 | 17.0 | 9.0 |
| MPXV1D1740L100 | 10.00 | ±20% | 18.80 | 21.70 | 9.5 | 10.0 | 14.5 | 6.8 |
| MPXV1D1740L150 | 15.00 | ±20% | 30.60 | 35.20 | 7.5 | 9.0 | 13.0 | 6.0 |
| MPXV1D1740L220 | 22.00 | ±20% | 40.30 | 46.40 | 6.5 | 7.0 | 10.0 | 5.0 |
| MPXV1D1740L330 | 33.00 | ±20% | 71.50 | 82.30 | 5.0 | 5.5 | 8.0 | 4.0 |
| MPXV1D1740L470 | 47.00 | ±20% | 109.30 | 125.70 | 4.0 | 4.4 | 6.5 | 2.5 |
| MPXV1D1770LR47 | 0.47 | ±20% | 0.87 | 1.00 | 52.5 | 72.0 | 108.0 | 45.0 |
| MPXV1D1770LR68 | 0.68 | ±20% | 0.91 | 1.05 | 50.0 | 46.0 | 68.0 | 37.0 |
| MPXV1D1770L1R0 | 1.00 | ±20% | 1.50 | 1.80 | 38.0 | 42.0 | 62.0 | 27.0 |
| MPXV1D1770L1R5 | 1.50 | ±20% | 1.50 | 1.80 | 38.0 | 31.0 | 45.0 | 18.0 |
| MPXV1D1770L2R2 | 2.20 | ±20% | 2.20 | 2.60 | 31.0 | 25.0 | 34.0 | 15.0 |
| MPXV1D1770L3R3 | 3.30 | ±20% | 2.90 | 3.40 | 28.0 | 24.0 | 30.5 | 13.0 |
| MPXV1D1770L4R7 | 4.70 | ±20% | 4.10 | 4.80 | 23.5 | 24.0 | 33.5 | 10.0 |
| MPXV1D1770L6R8 | 6.80 | ±20% | 5.90 | 6.80 | 19.5 | 18.0 | 26.0 | 8.0 |
| MPXV1D1770L100 | 10.00 | ±20% | 10.60 | 12.20 | 14.5 | 11.5 | 16.5 | 7.0 |
| MPXV1D1770L150 | 15.00 | ±20% | 15.40 | 17.80 | 12.0 | 10.5 | 14.0 | 5.5 |
| MPXV1D1770L220 | 22.00 | ±20% | 19.90 | 22.90 | 10.5 | 8.5 | 12.0 | 4.5 |
| MPXV1D1770L330 | 33.00 | ±20% | 41.10 | 47.30 | 7.5 | 8.5 | 12.0 | 3.5 |
| MPXV1D1770L470 | 47.00 | ±20% | 54.60 | 62.80 | 6.5 | 7.5 | 10.5 | 2.8 |
| MPXV1D1770L680 | 68.00 | ±20% | 69.10 | 79.50 | 5.5 | 6.0 | 8.5 | 2.3 |
| MPXV1D1770L101 | 100.00 | ±20% | 95.90 | 110.30 | 4.5 | 5.6 | 7.5 | 1.8 |
| MPXV1D2213LR47 | 0.47 | ±20% | 0.42 | 0.48 | 90.0 | 96.0 | 140.0 | 45.0 |
| MPXV1D2213LR68 | 0.68 | ±20% | 0.72 | 0.83 | 78.0 | 80.0 | 115.0 | 34.0 |
| MPXV1D2213L1R0 | 1.00 | ±20% | 0.80 | 1.00 | 74.0 | 58.0 | 84.0 | 22.0 |
| MPXV1D2213L1R5 | 1.50 | ±20% | 0.96 | 1.20 | 68.0 | 42.0 | 60.0 | 17.0 |
| MPXV1D2213L2R2 | 2.20 | ±20% | 1.20 | 1.40 | 59.0 | 38.0 | 56.0 | 14.0 |
| MPXV1D2213L3R3 | 3.30 | ±20% | 1.50 | 1.80 | 54.0 | 34.0 | 48.0 | 11.0 |
| MPXV1D2213L4R7 | 4.70 | ±20% | 1.90 | 2.20 | 48.0 | 28.0 | 40.0 | 9.0 |
| MPXV1D2213L6R8 | 6.80 | ±20% | 2.80 | 3.30 | 39.0 | 30.0 | 42.0 | 6.5 |
| MPXV1D2213L100 | 10.00 | ±20% | 3.80 | 4.40 | 34.0 | 26.0 | 36.0 | 5.2 |
| MPXV1D2213L150 | 15.00 | ±20% | 5.90 | 6.80 | 27.5 | 22.0 | 30.0 | 4.0 |
| MPXV1D2213L220 | 22.00 | ±20% | 11.40 | 13.20 | 19.5 | 15.0 | 20.5 | 3.7 |
| MPXV1D2213L330 | 33.00 | ±20% | 13.90 | 16.00 | 17.5 | 15.0 | 20.5 | 2.9 |
| MPXV1D2213L470 | 47.00 | ±20% | 17.80 | 20.50 | 15.5 | 13.5 | 19.0 | 2.5 |
| MPXV1D2213L680 | 68.00 | ±20% | 26.70 | 30.80 | 12.5 | 10.0 | 14.0 | 2.1 |
| MPXV1D2213L101 | 100.00 | ±20% | 41.20 | 47.40 | 10.0 | 8.0 | 10.5 | 1.6 |
| Part Number | Inductance (µH) at 100 kHz, 1 mA | Inductance Tolerance | DC Resistance (mΩ) Typical | DC Resistance (mΩ) Maximum | Rated Current (A) | | | Self-Resonance Frequency (MHz) |
| | | | | | I _{rms} ¹ | I _{sat} ² | I _{sat} ³ | |

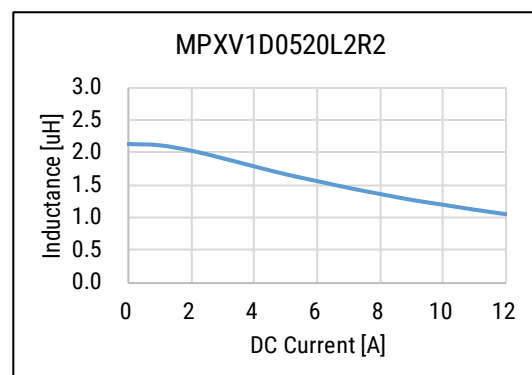
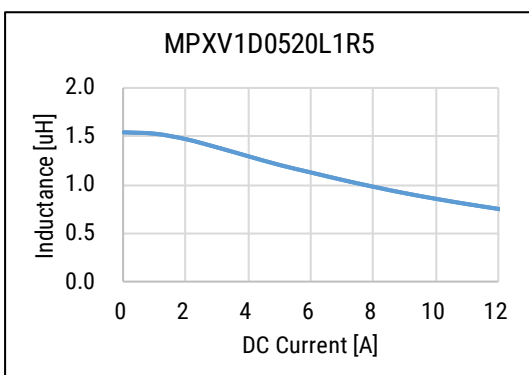
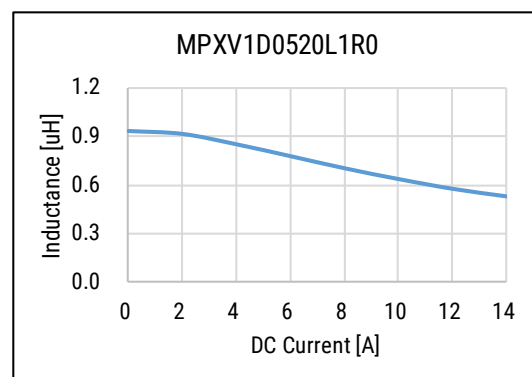
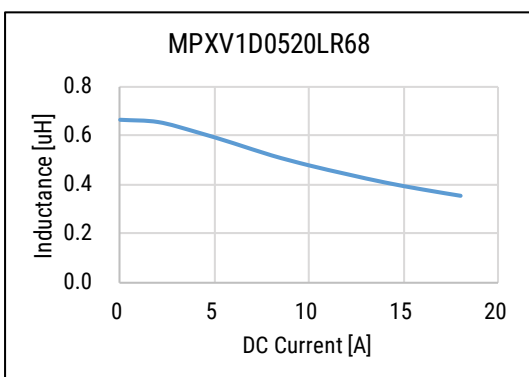
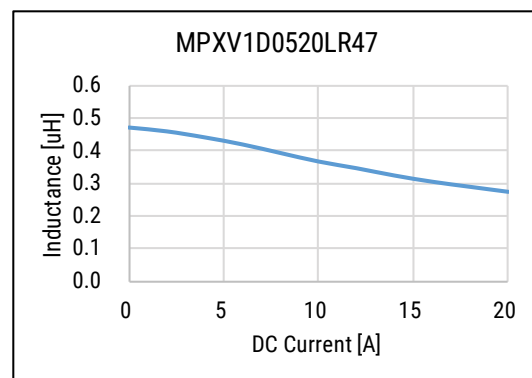
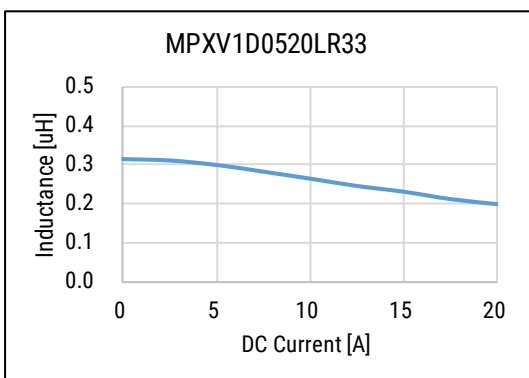
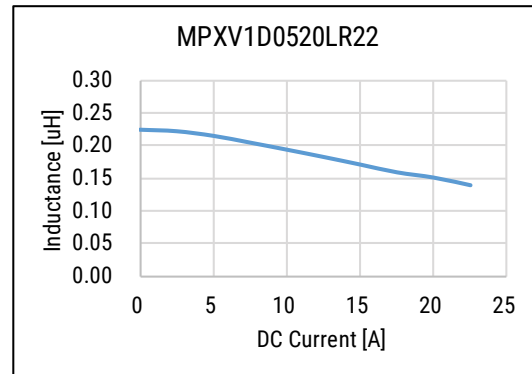
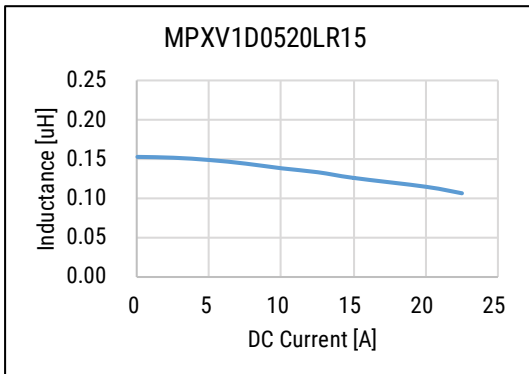
¹ T = 40 K rise at rated current

² Inductance drop 20% at rated current

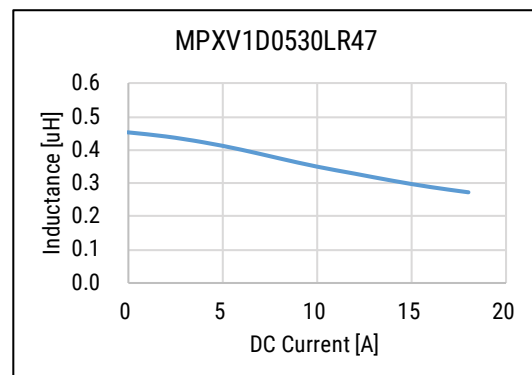
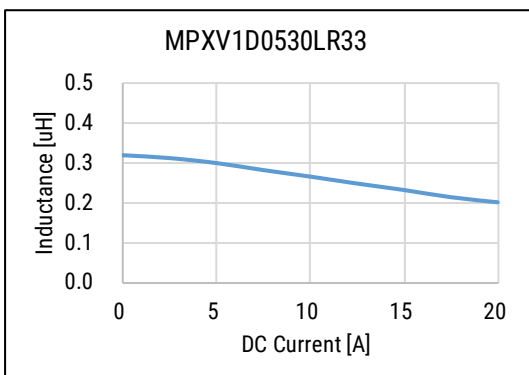
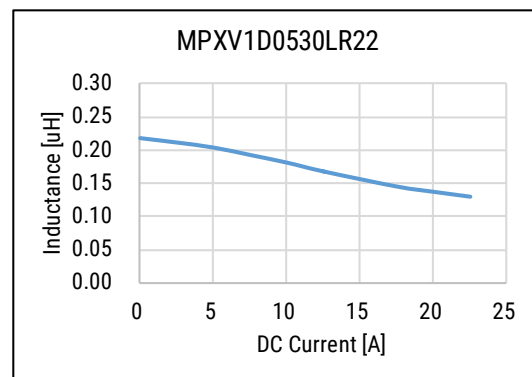
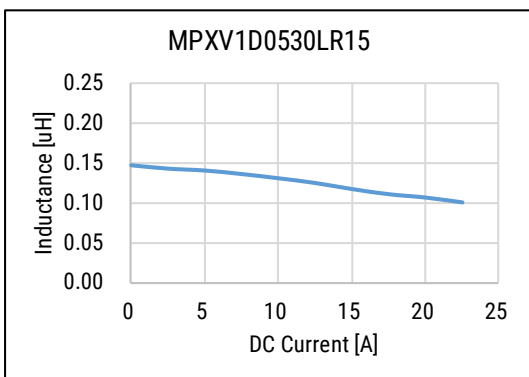
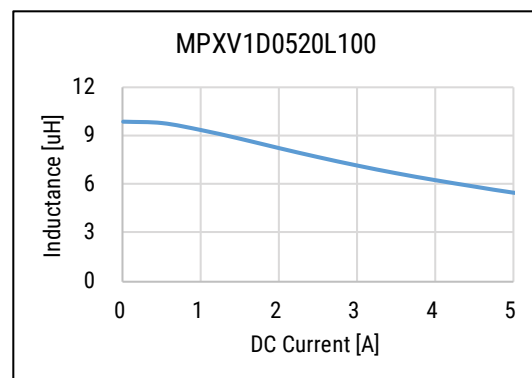
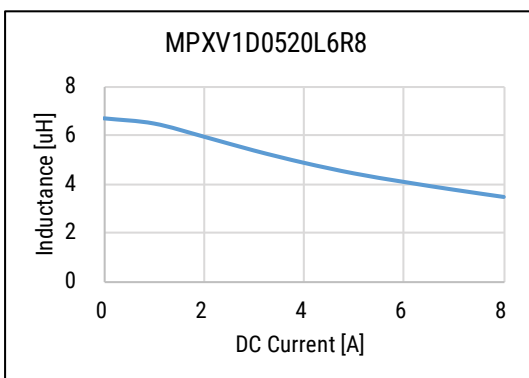
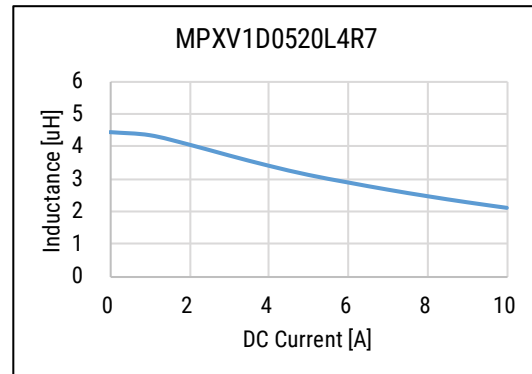
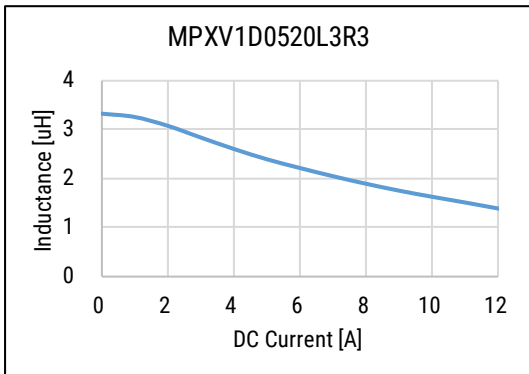
³ Inductance drop 30% at rated current

All electrical characteristics data is referenced to 25°C.

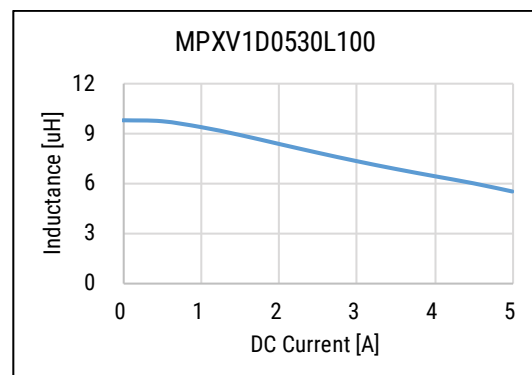
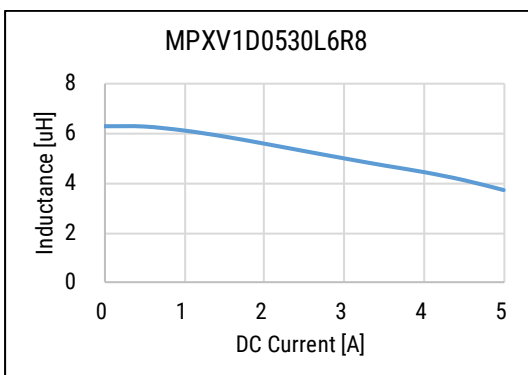
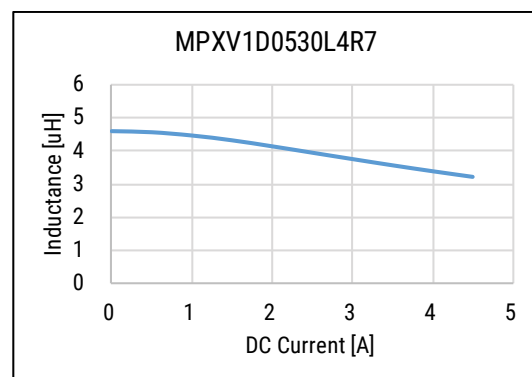
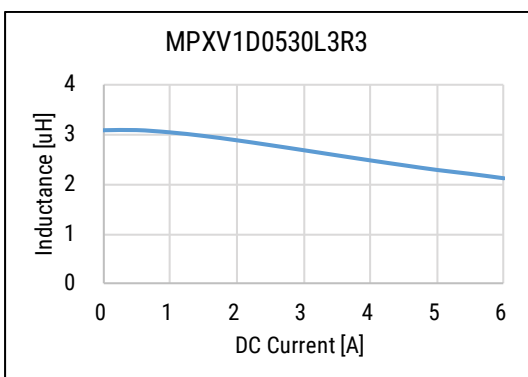
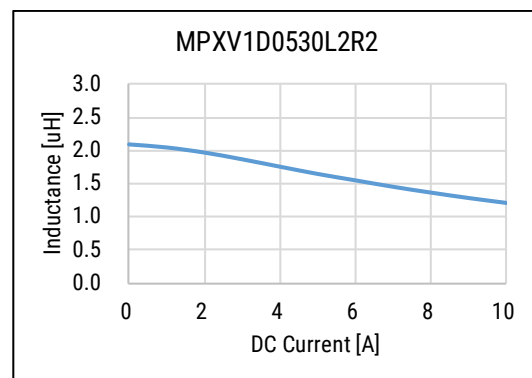
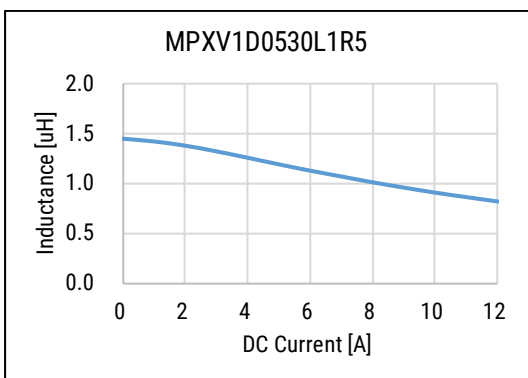
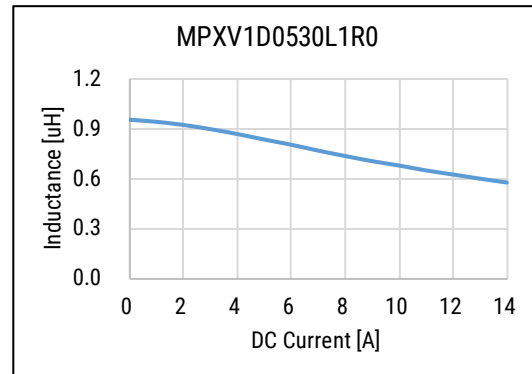
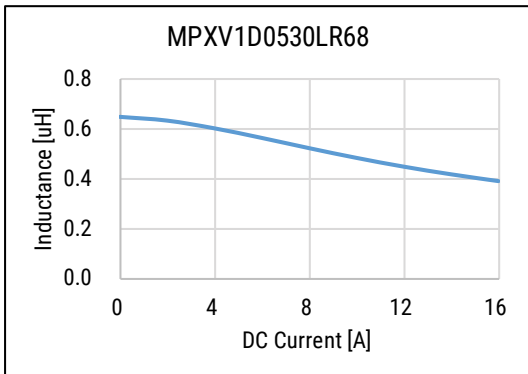
DC-Superposed Characteristics



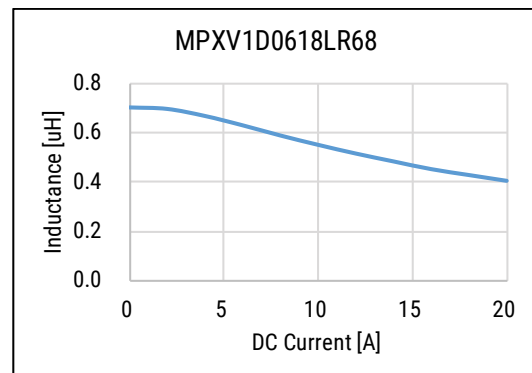
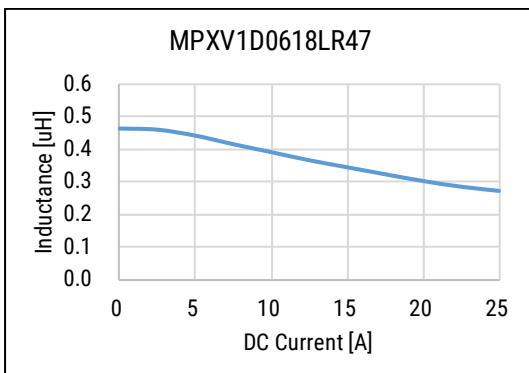
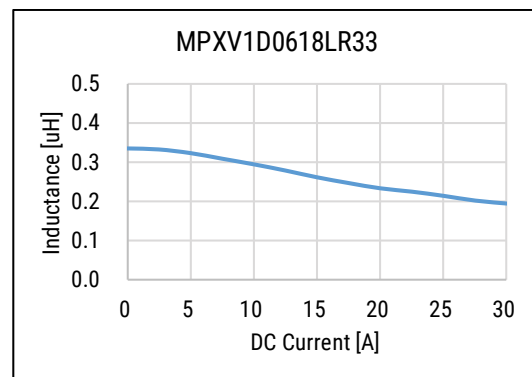
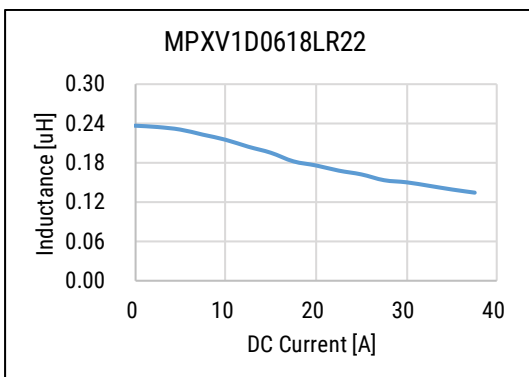
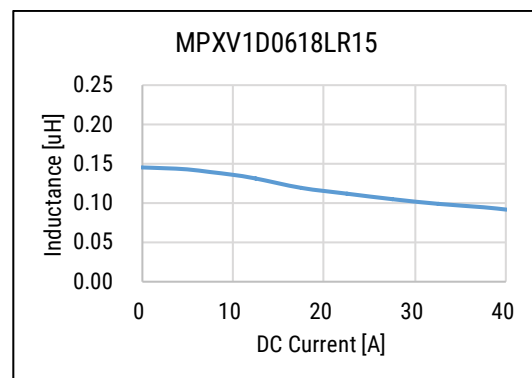
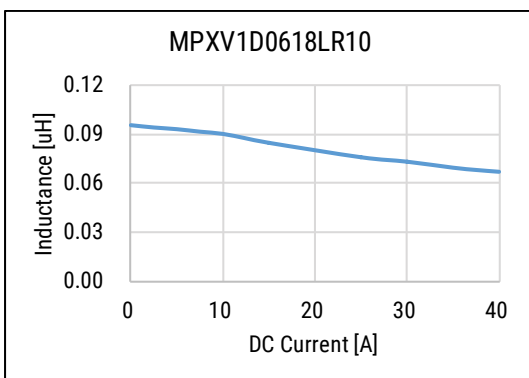
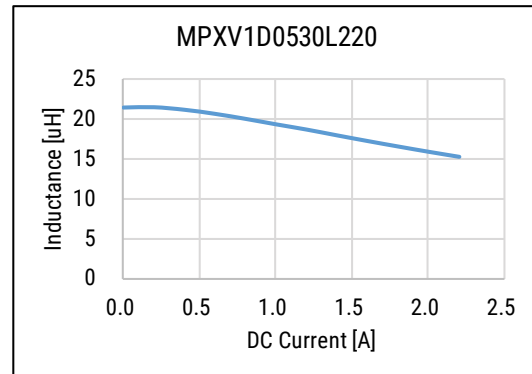
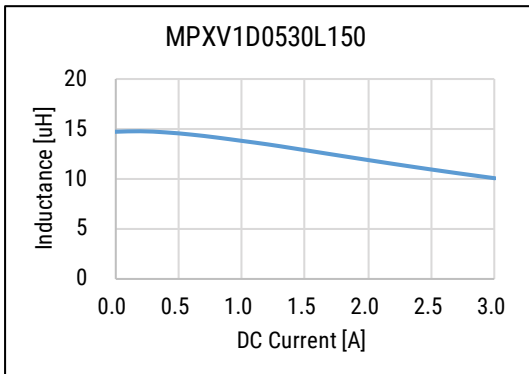
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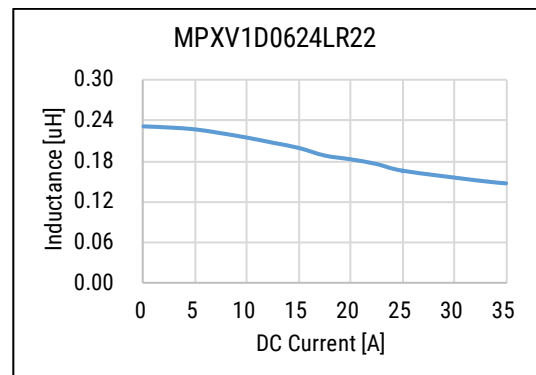
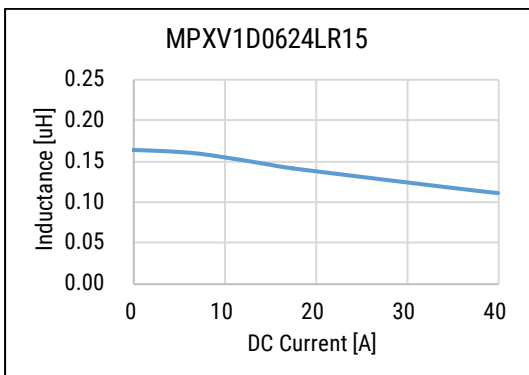
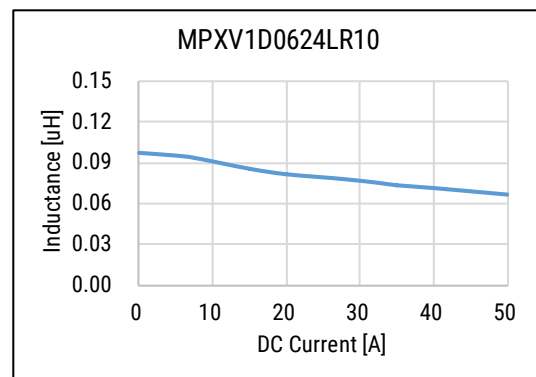
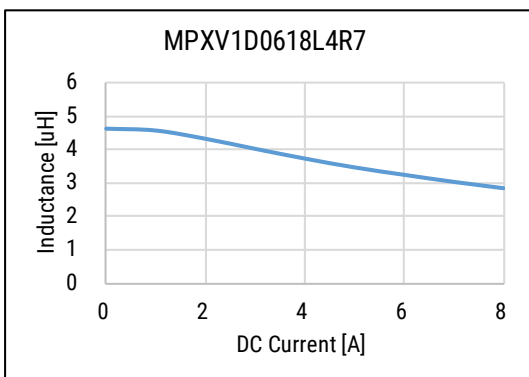
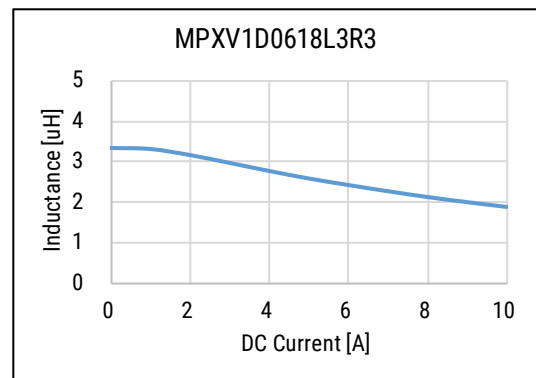
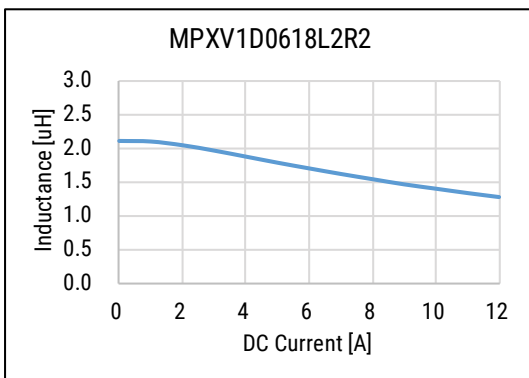
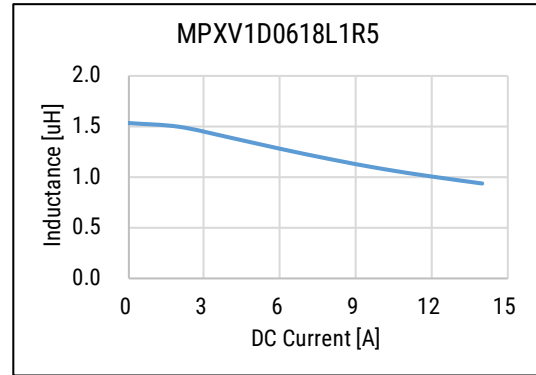
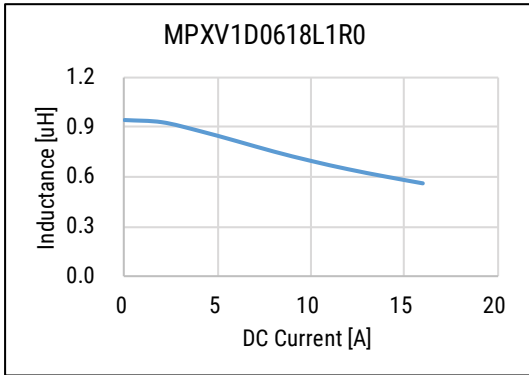
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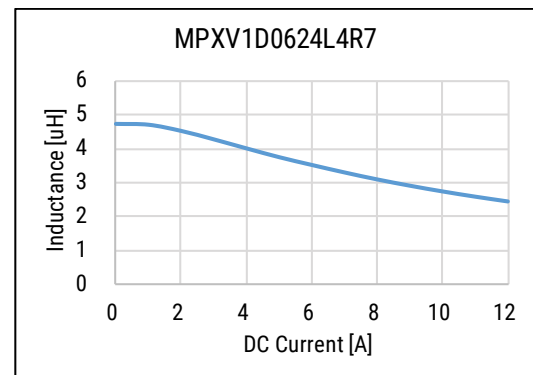
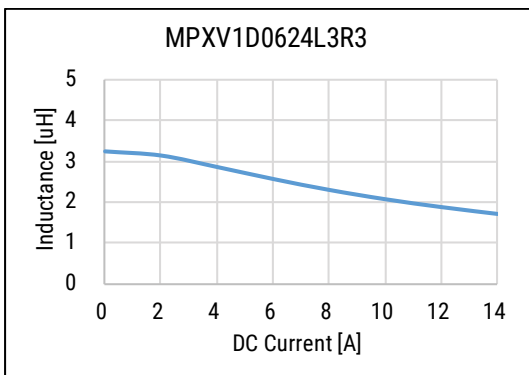
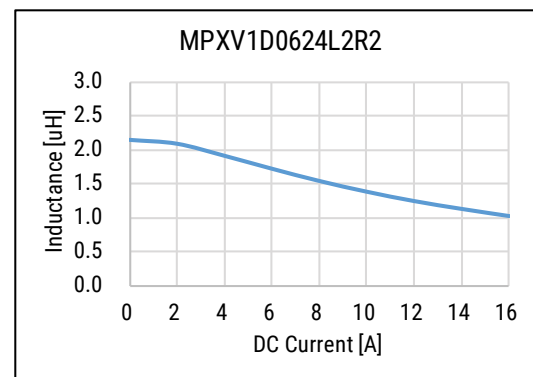
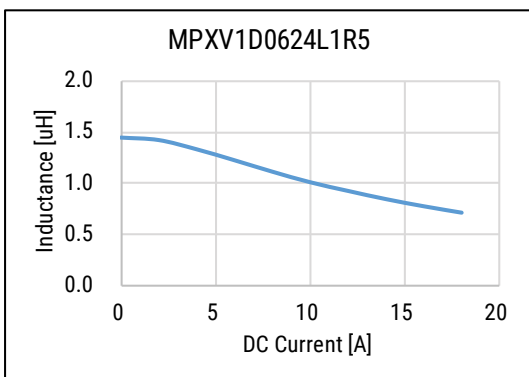
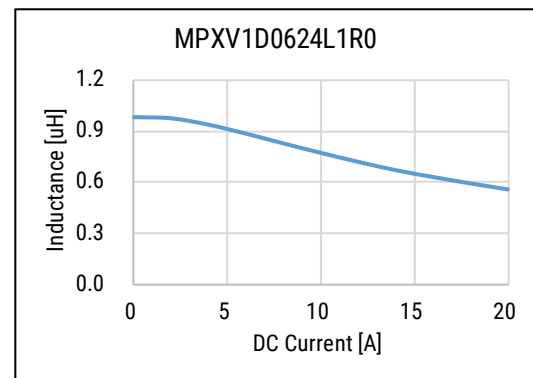
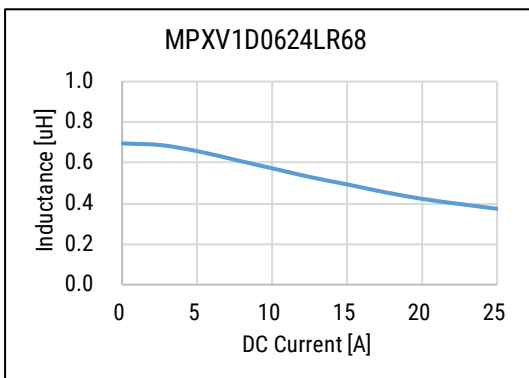
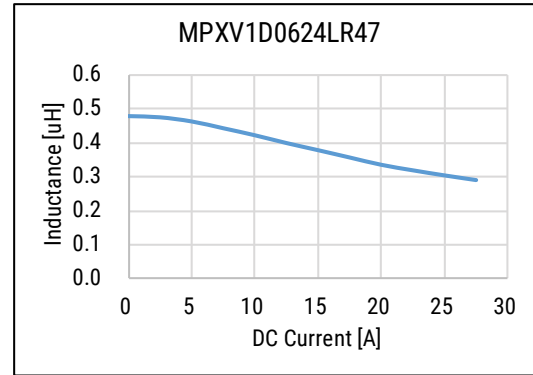
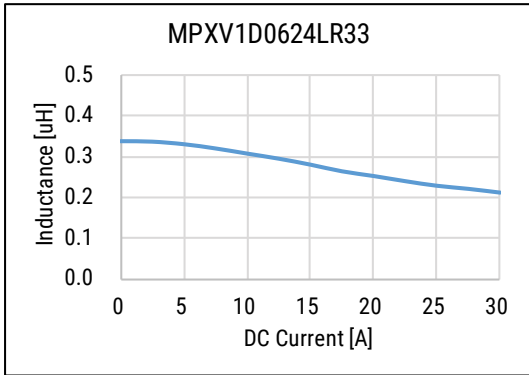
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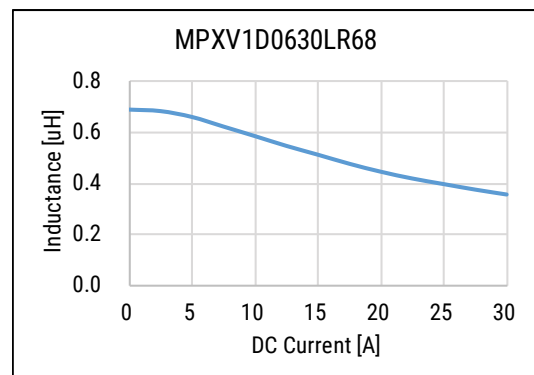
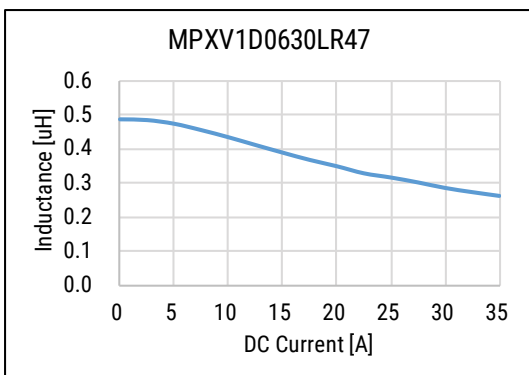
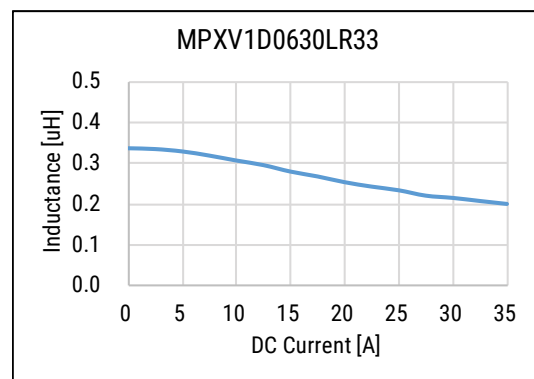
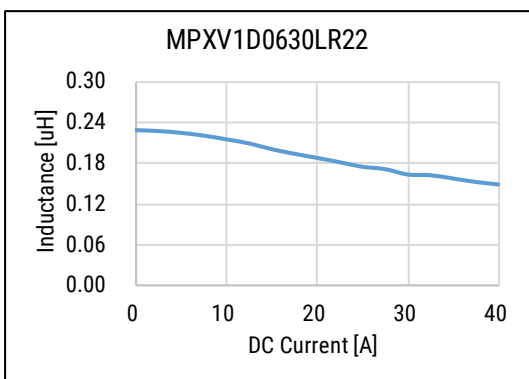
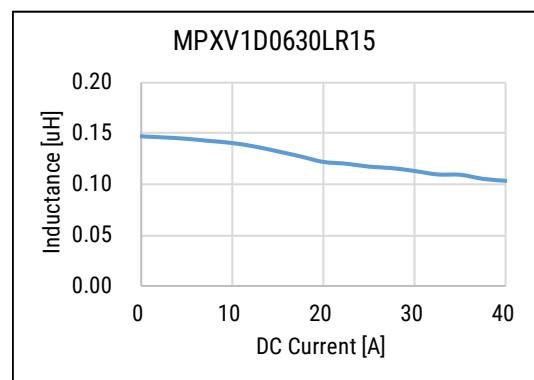
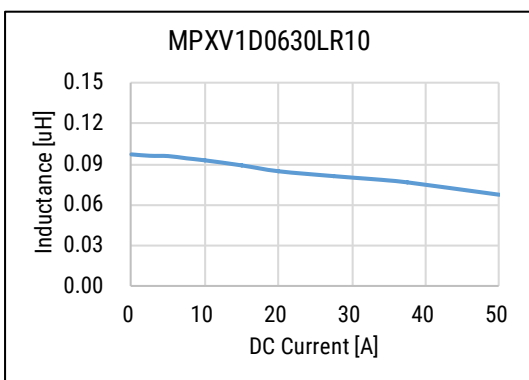
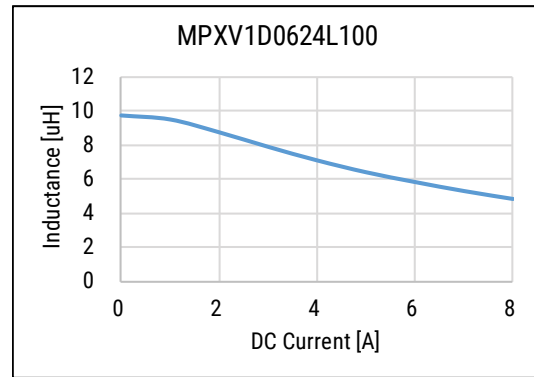
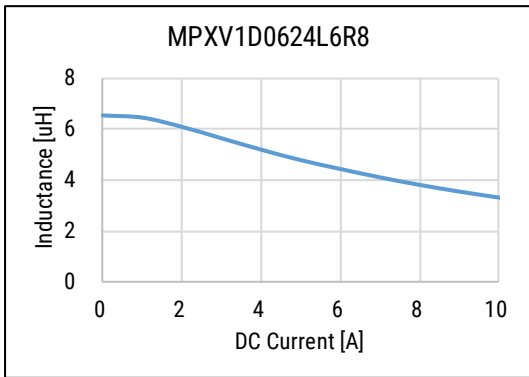
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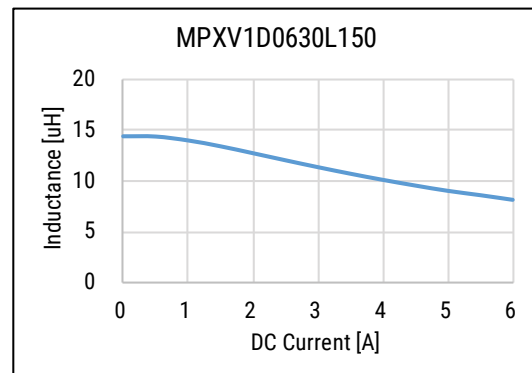
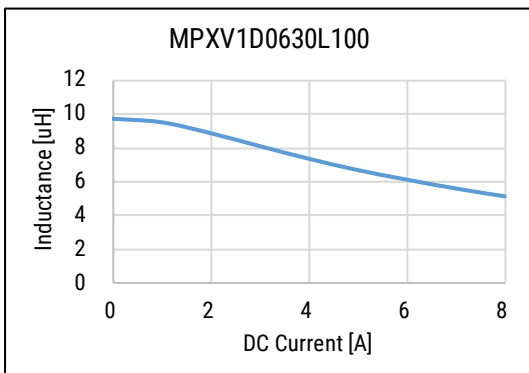
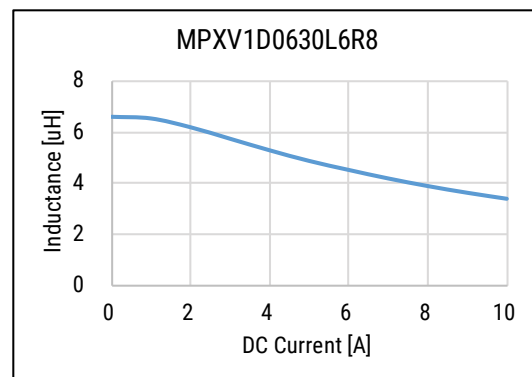
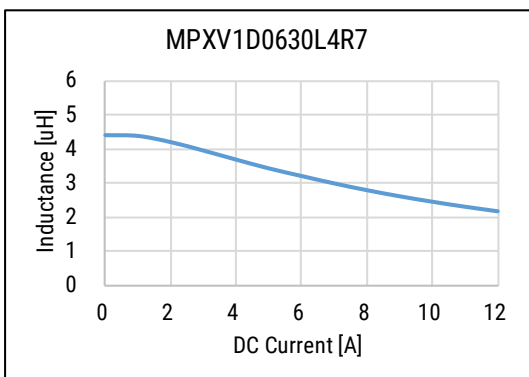
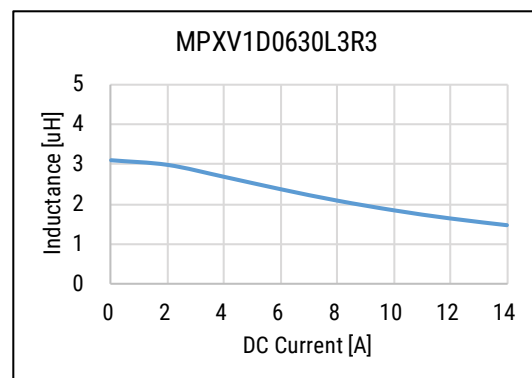
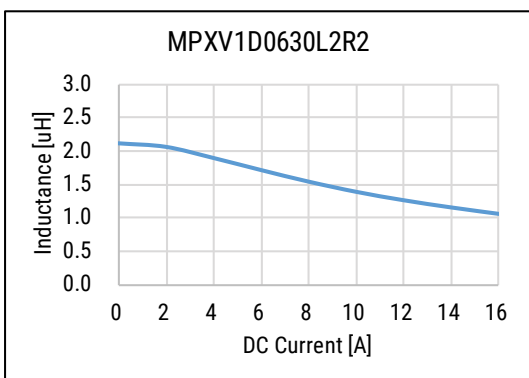
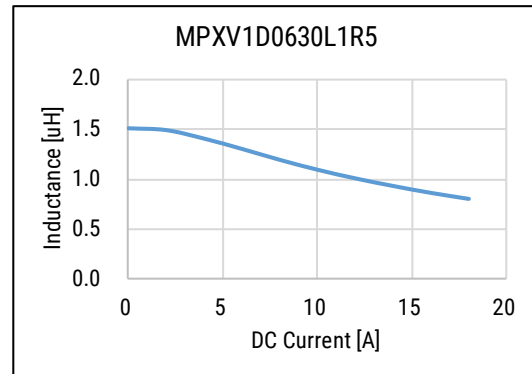
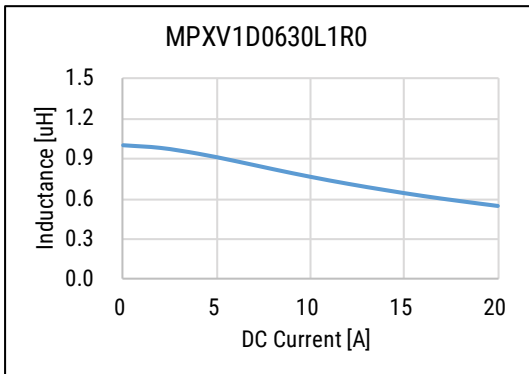
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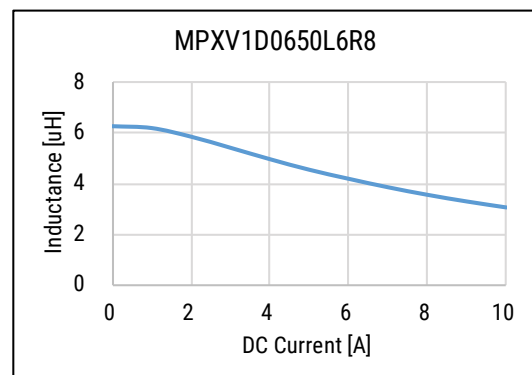
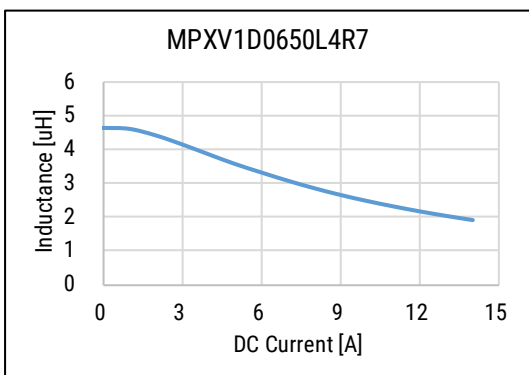
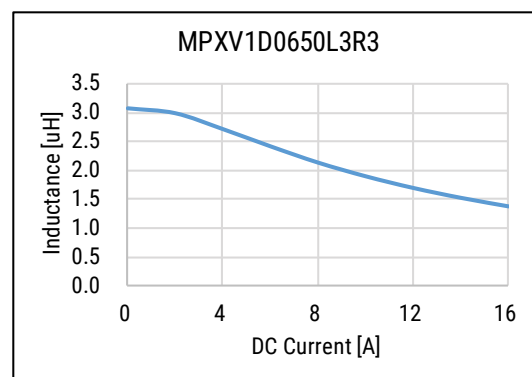
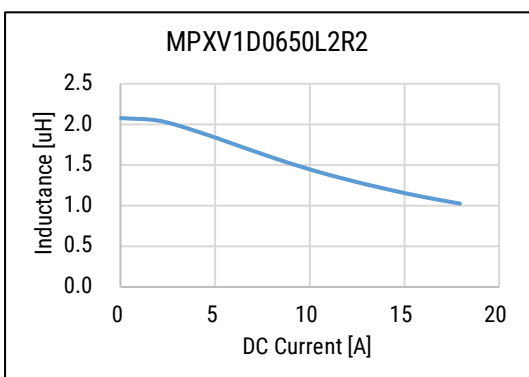
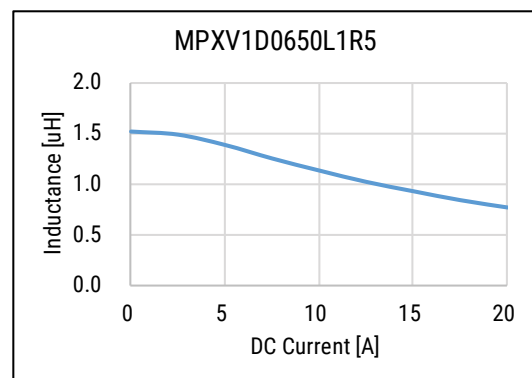
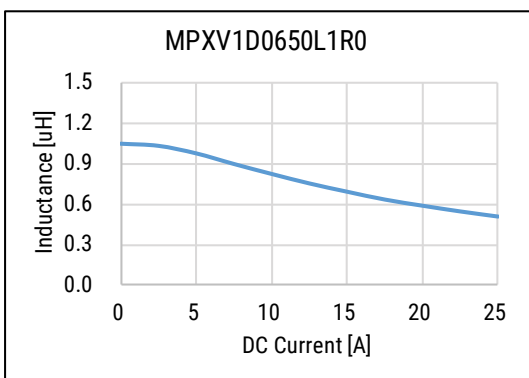
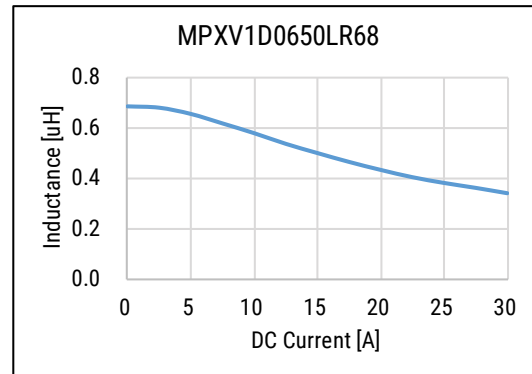
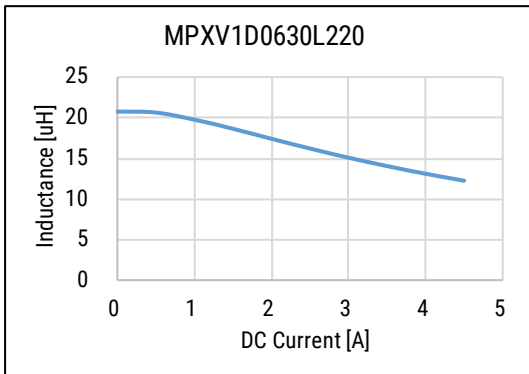
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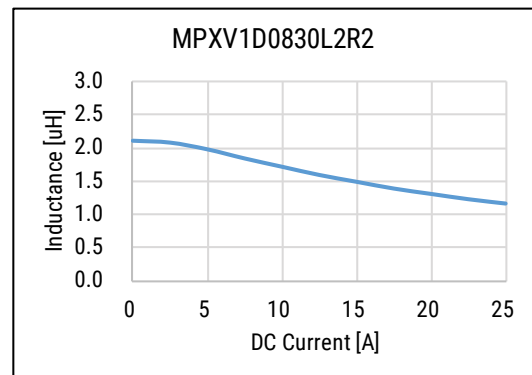
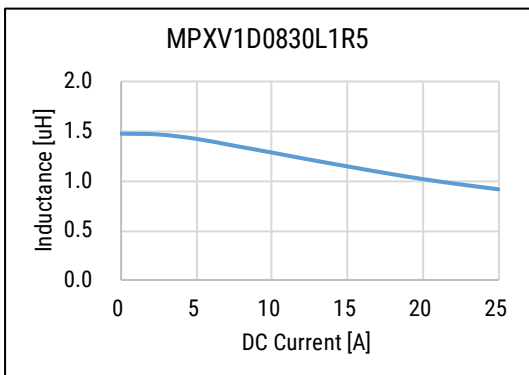
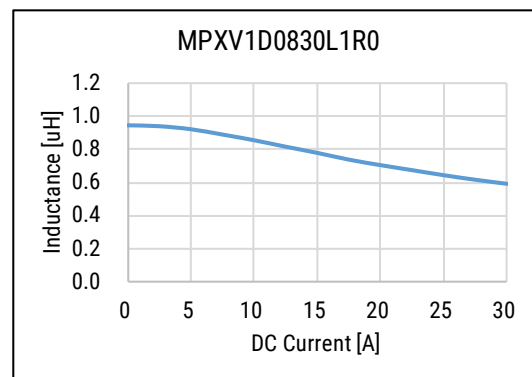
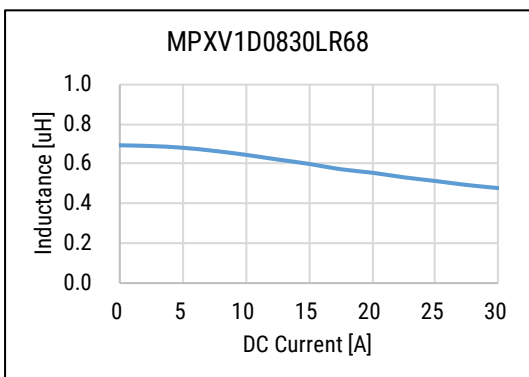
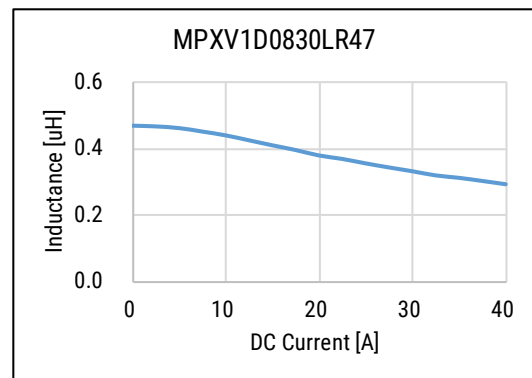
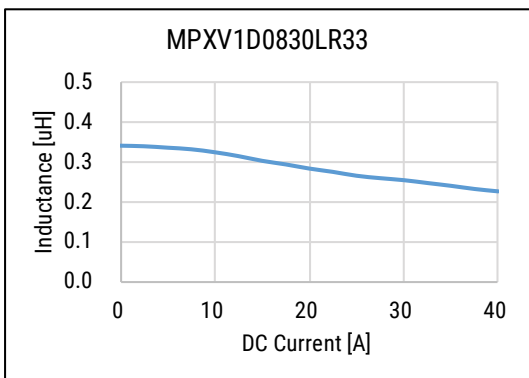
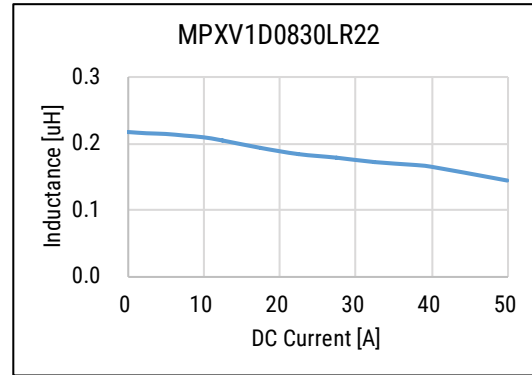
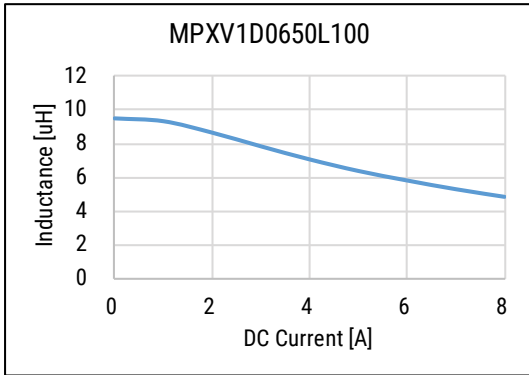
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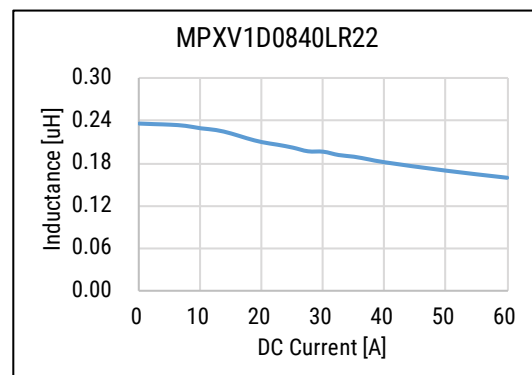
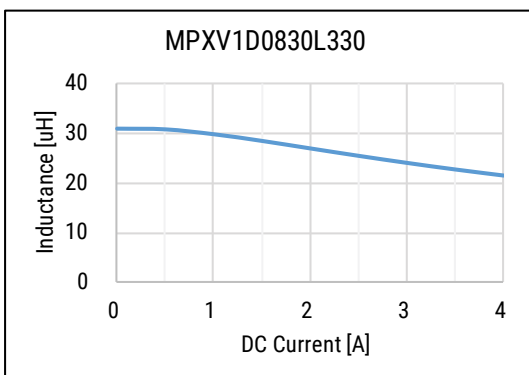
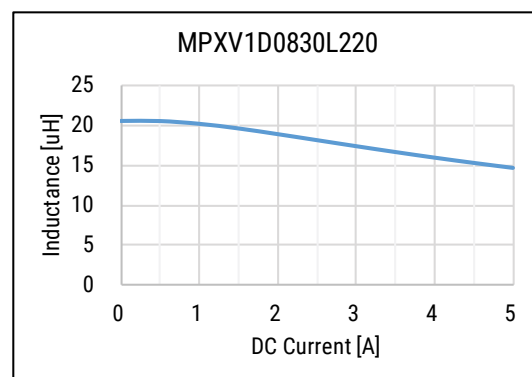
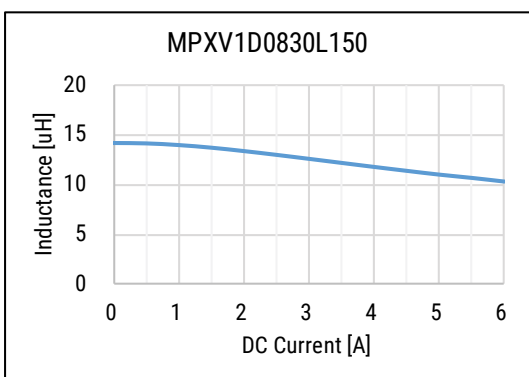
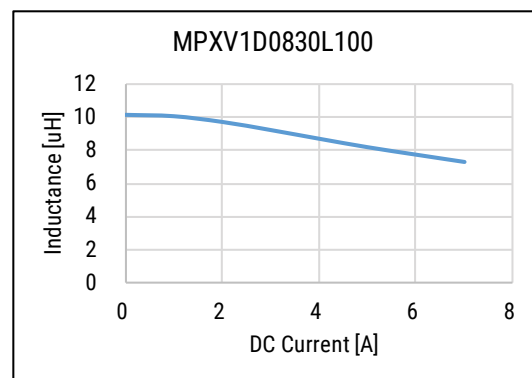
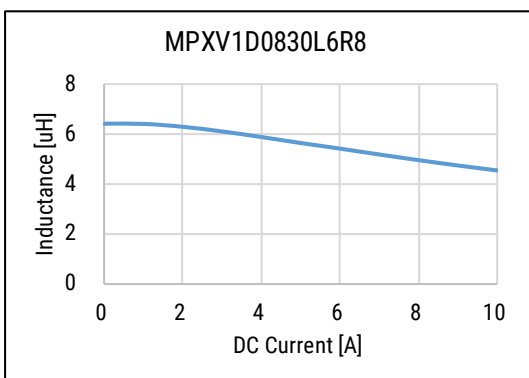
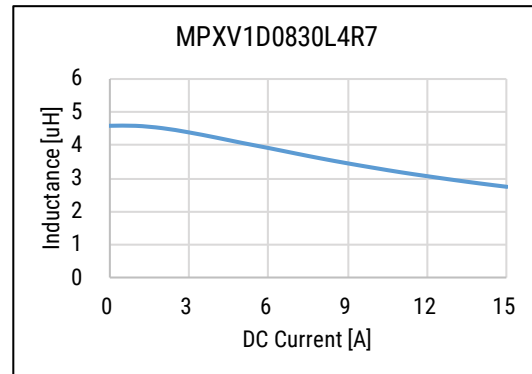
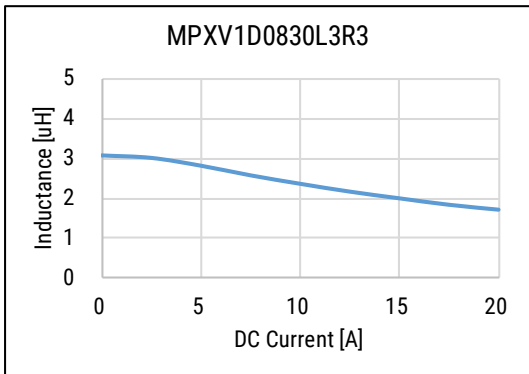
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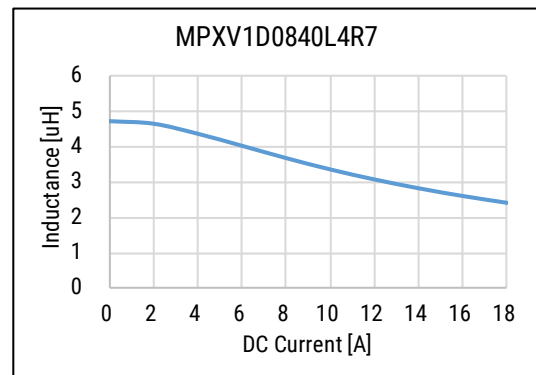
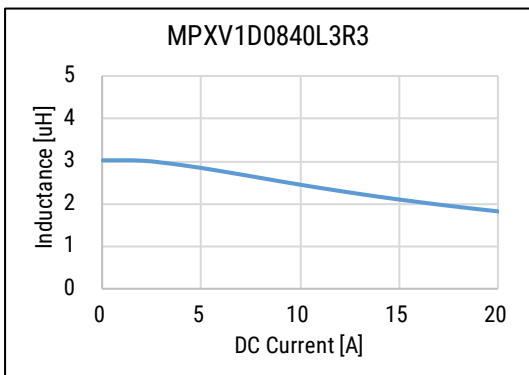
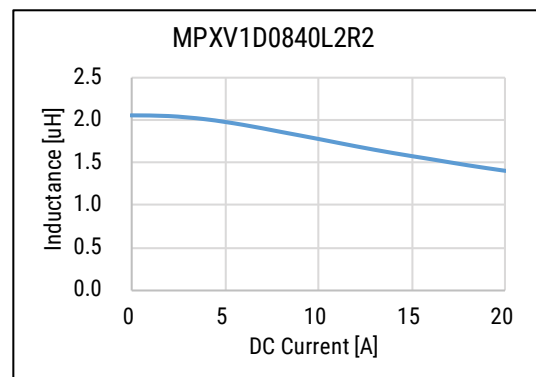
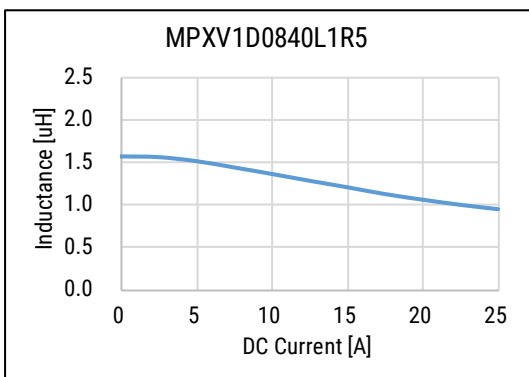
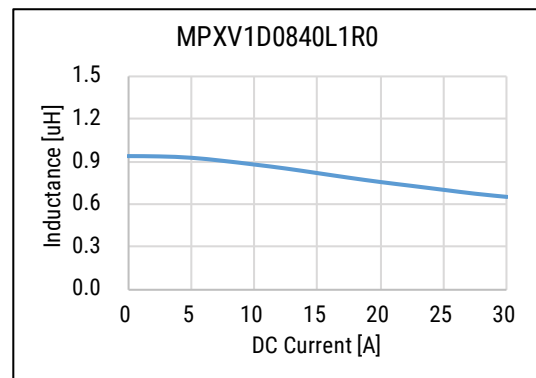
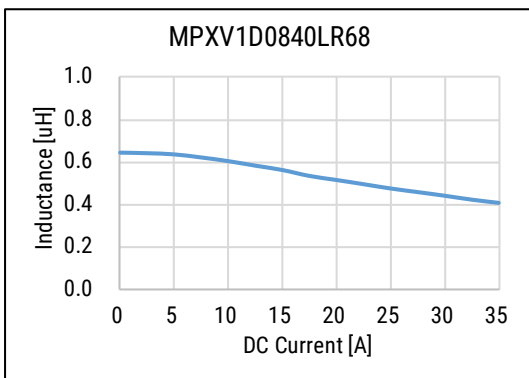
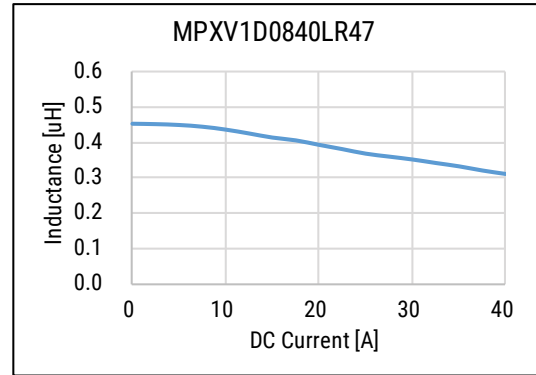
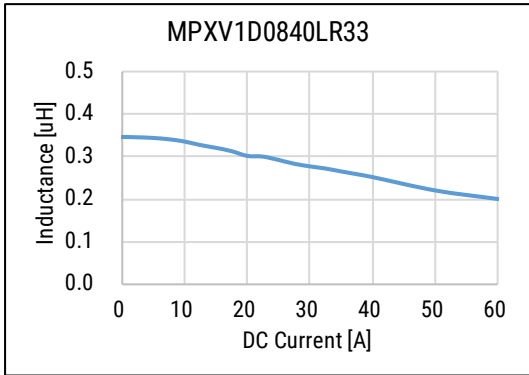
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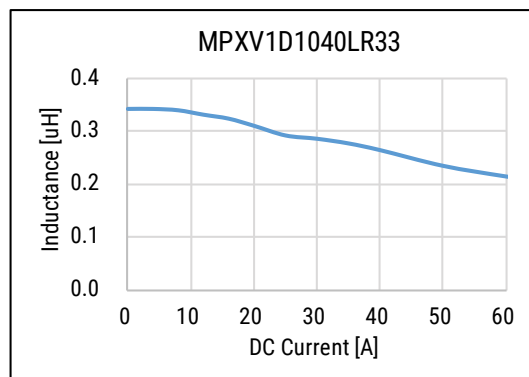
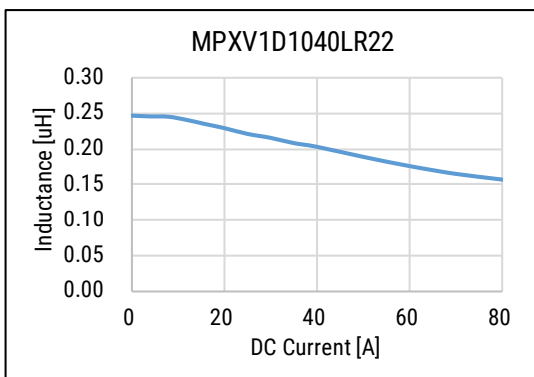
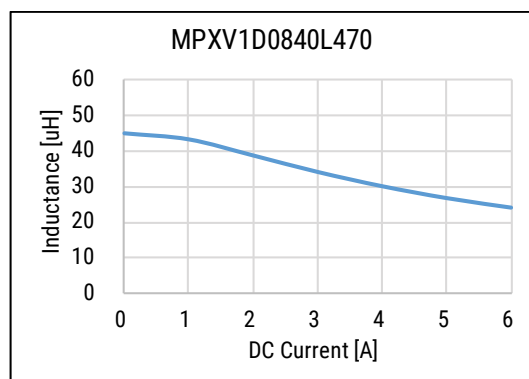
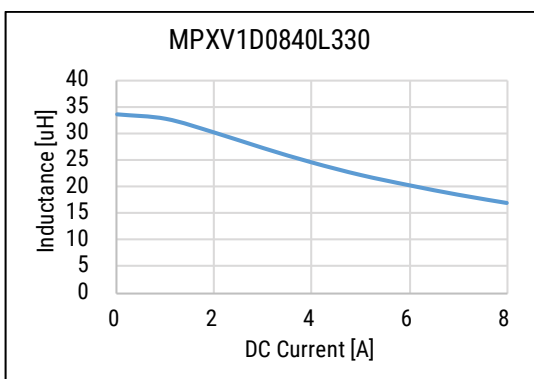
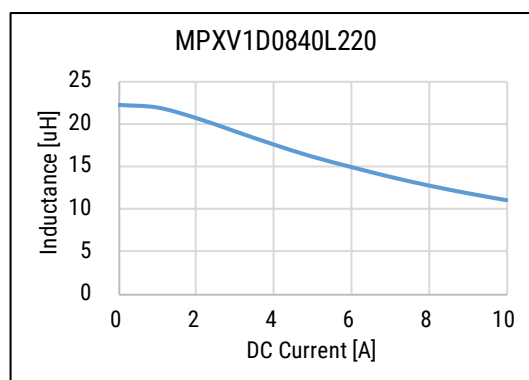
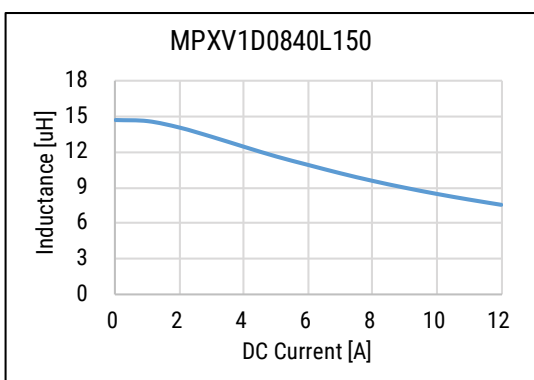
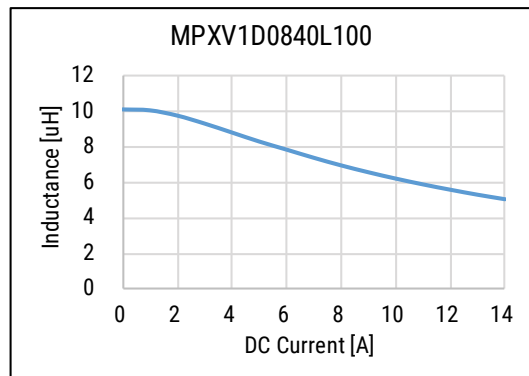
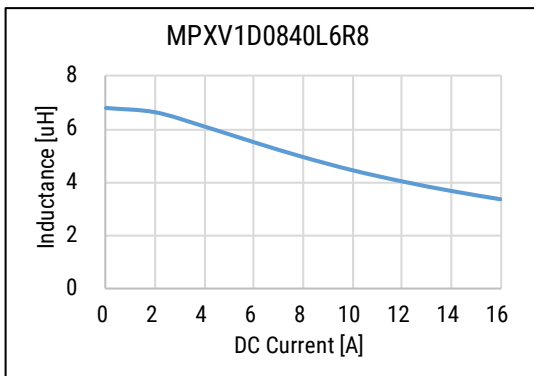
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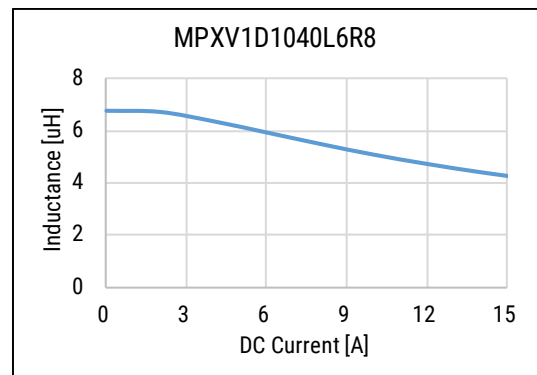
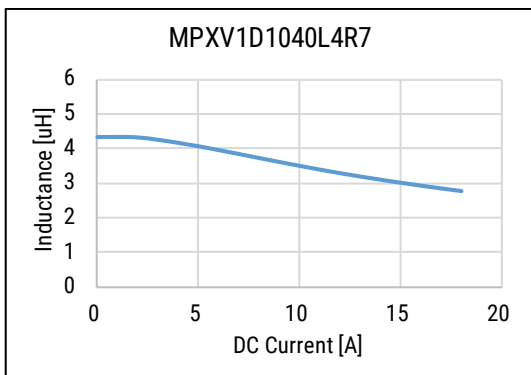
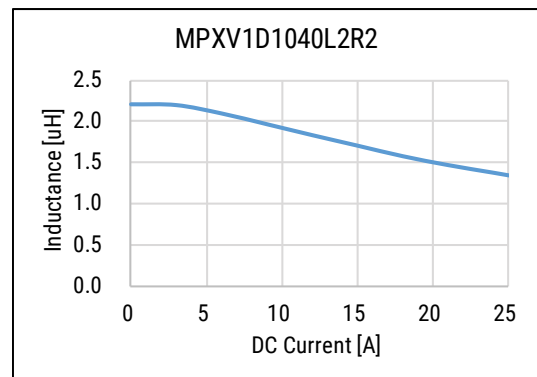
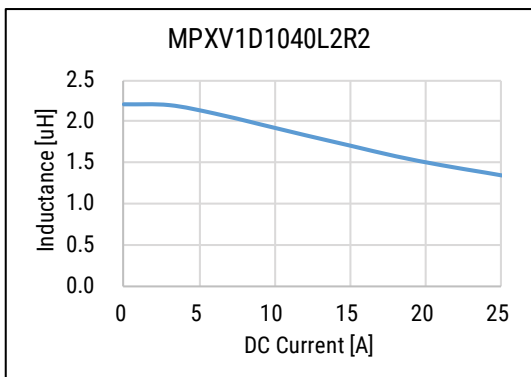
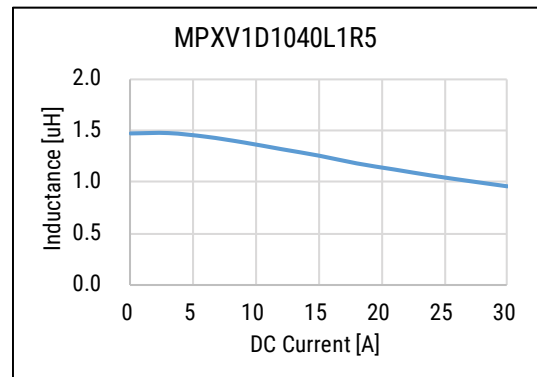
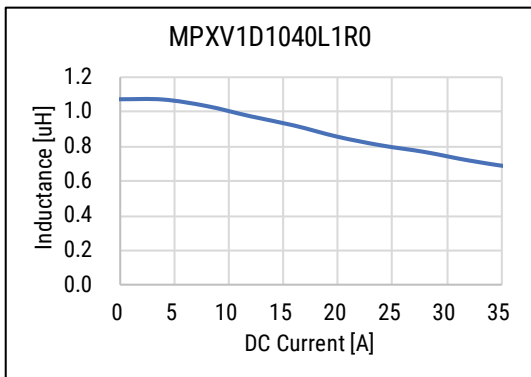
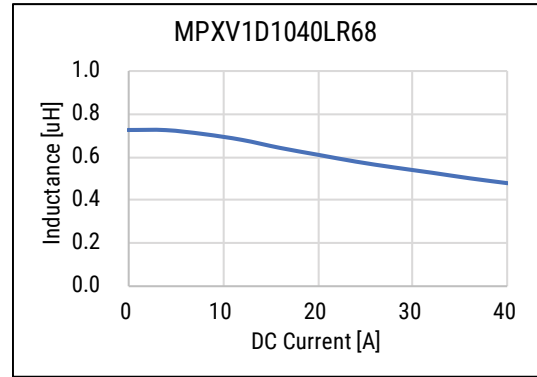
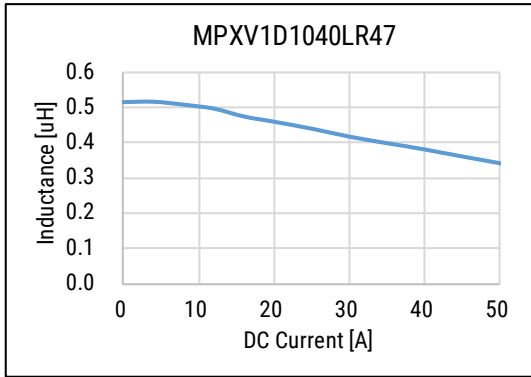
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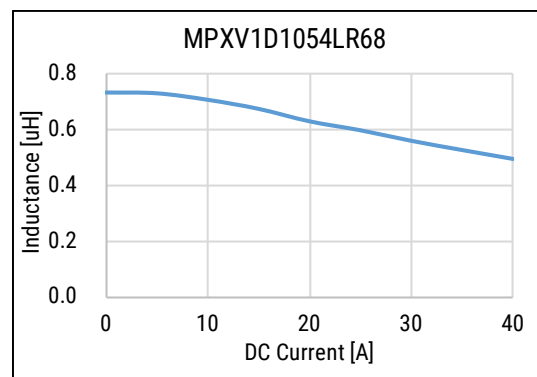
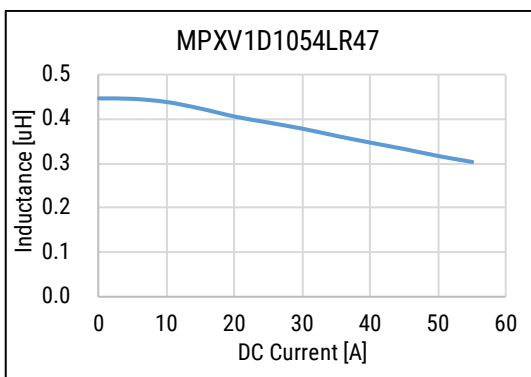
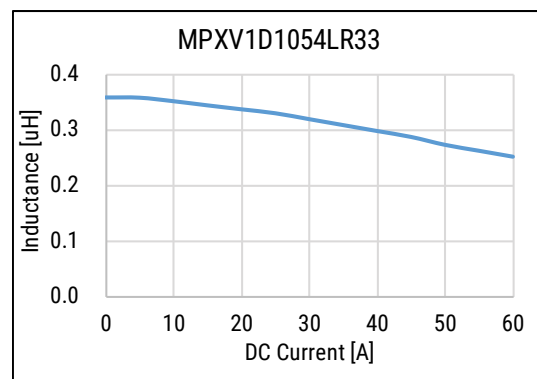
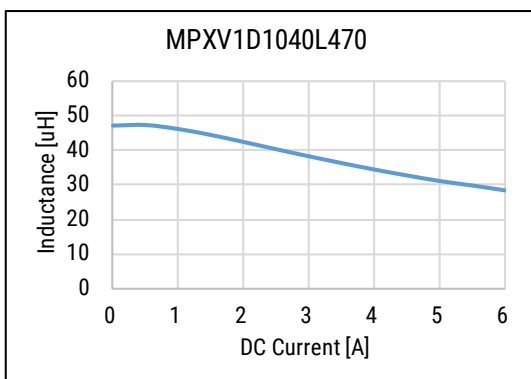
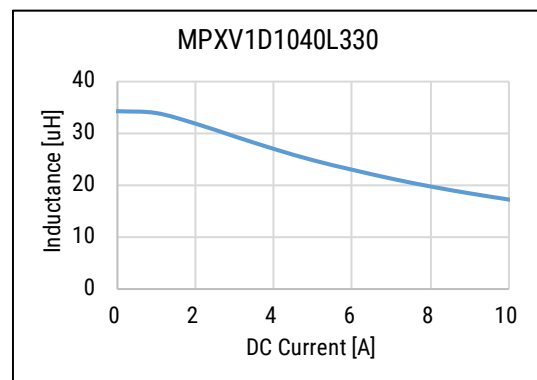
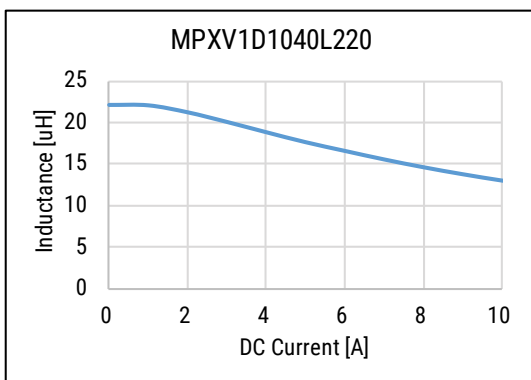
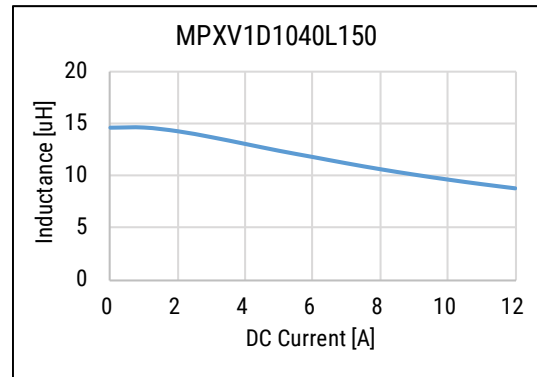
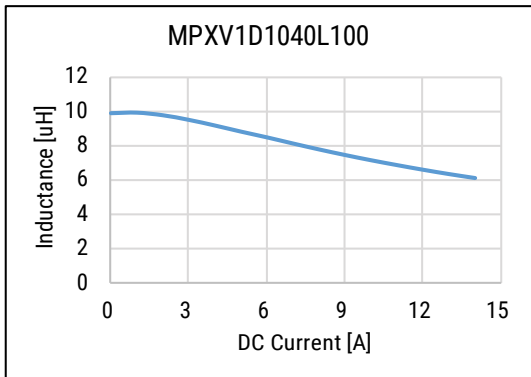
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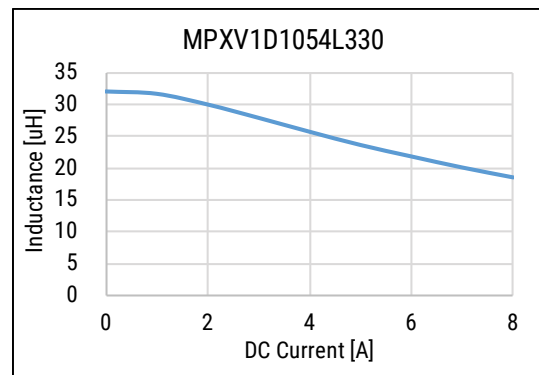
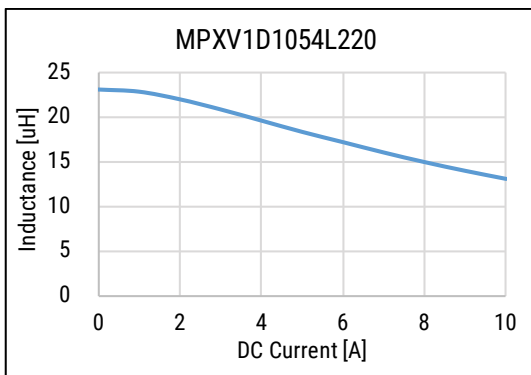
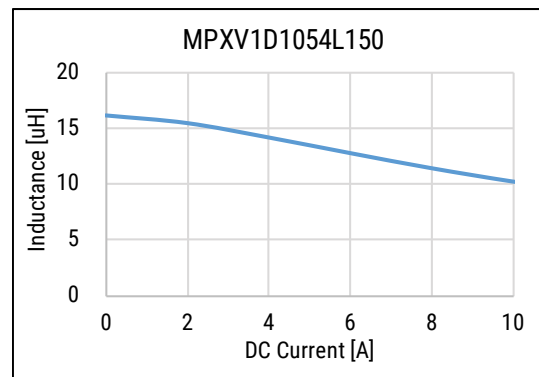
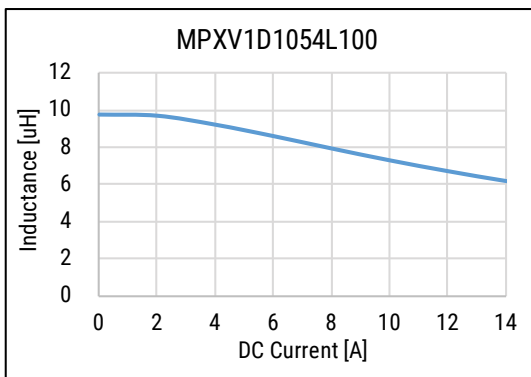
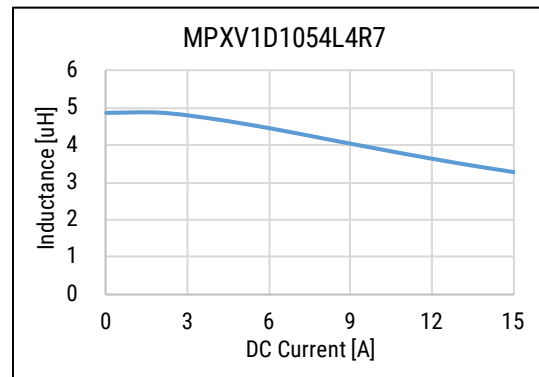
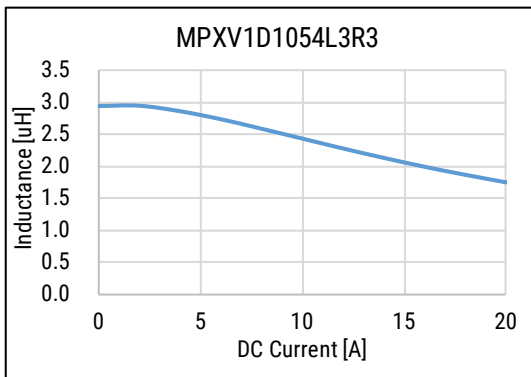
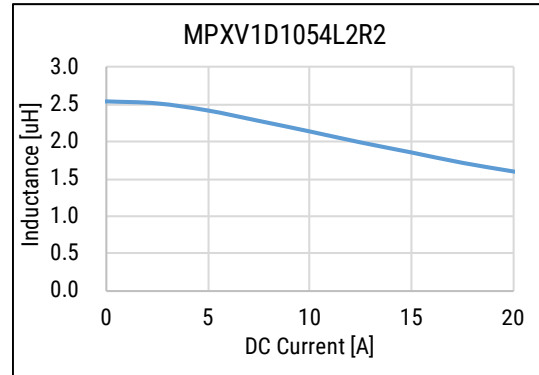
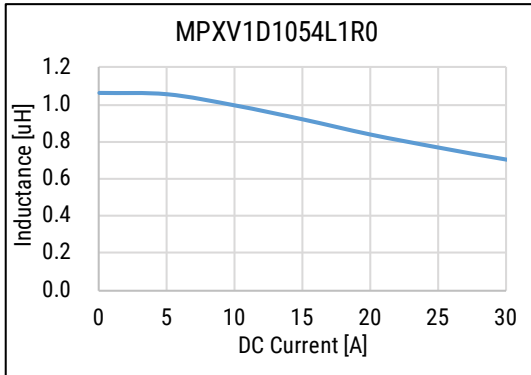
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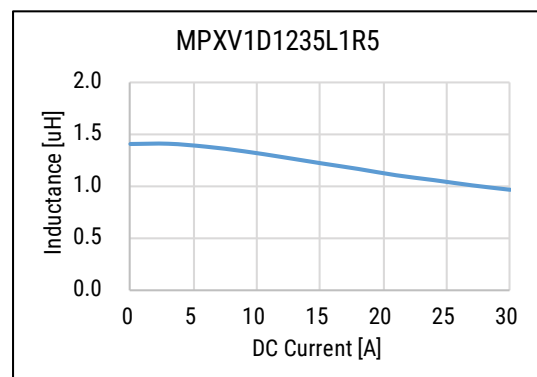
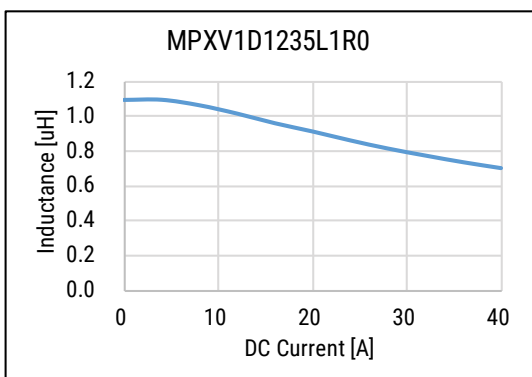
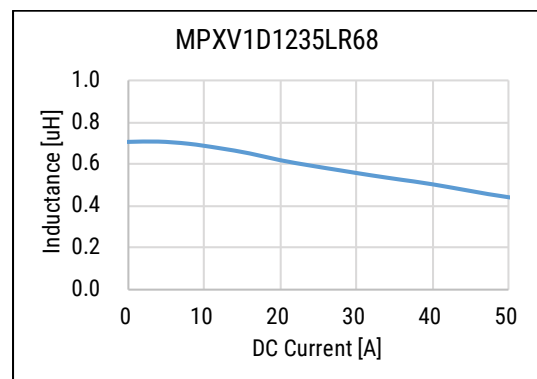
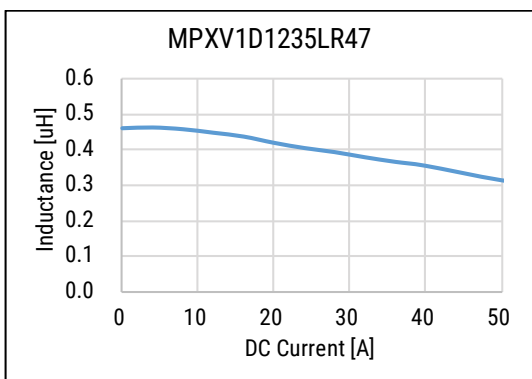
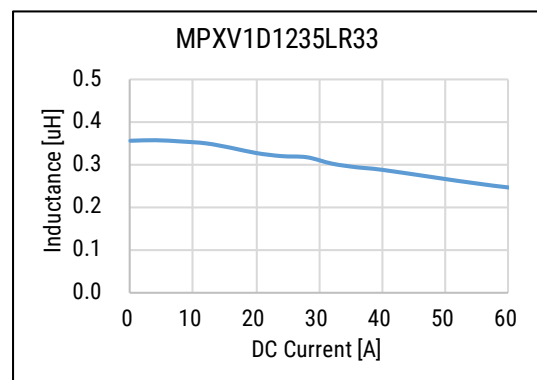
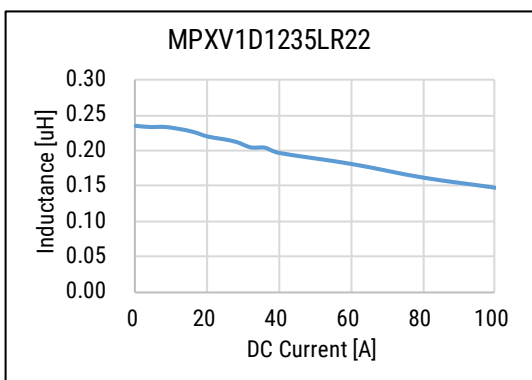
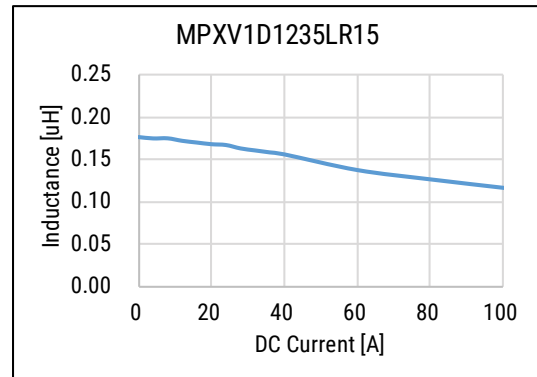
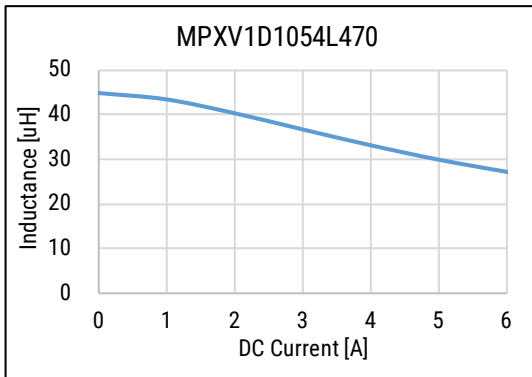
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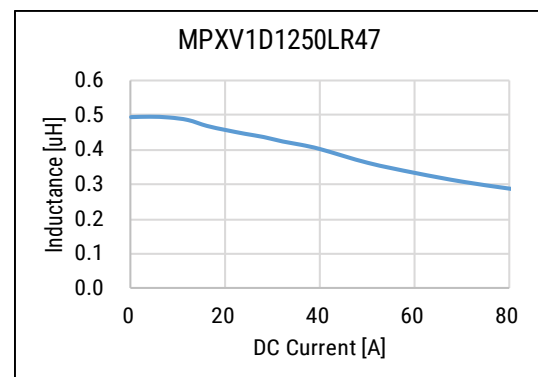
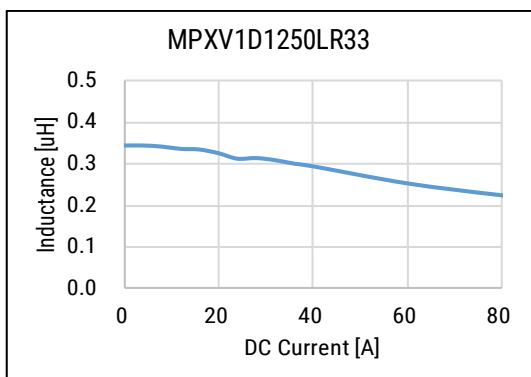
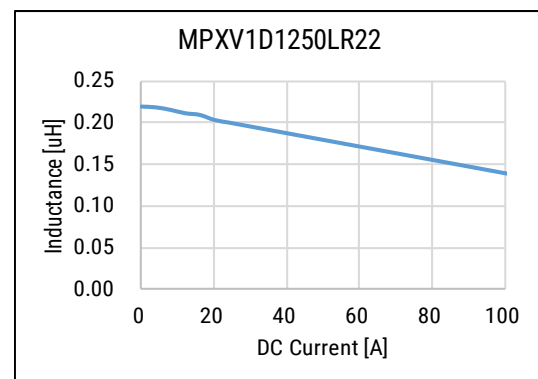
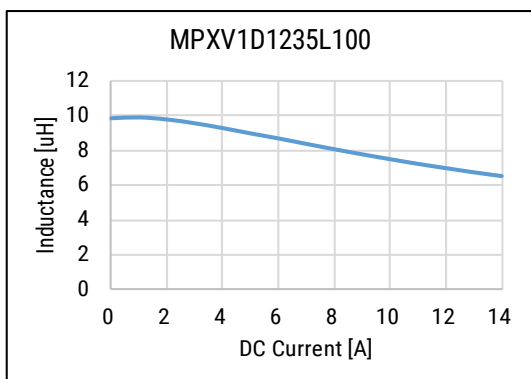
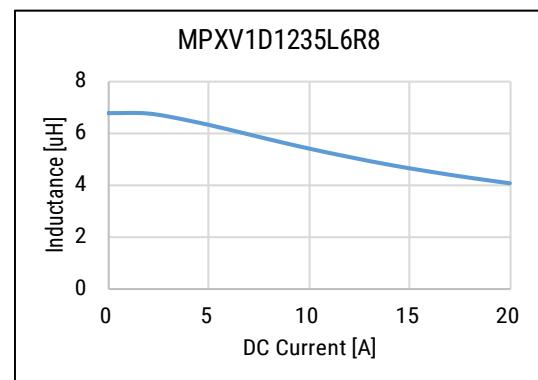
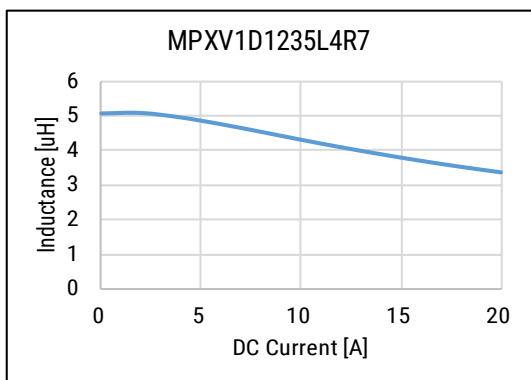
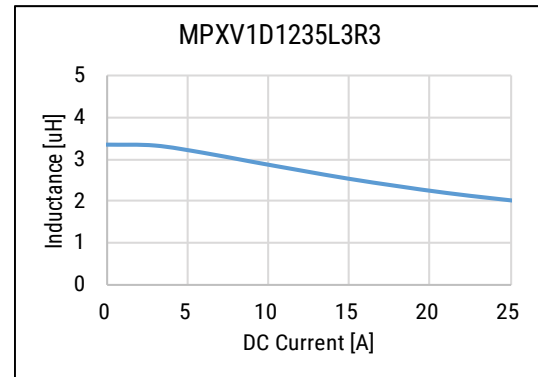
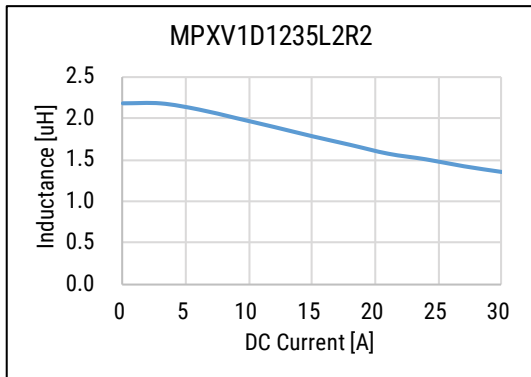
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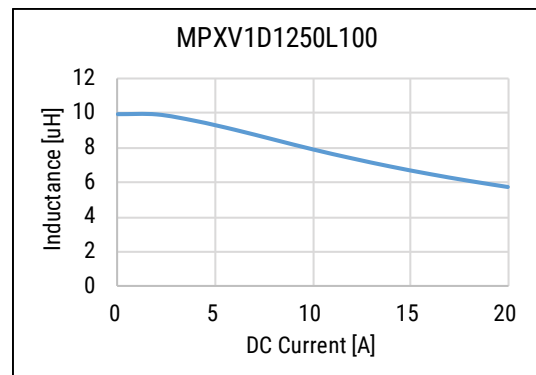
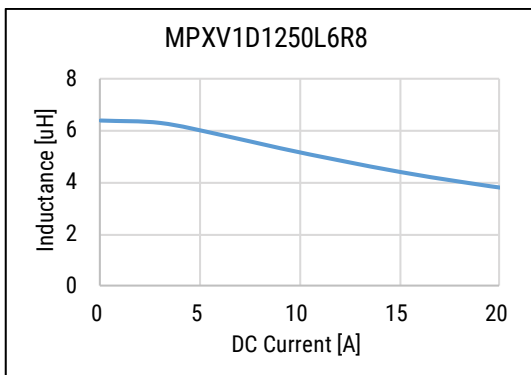
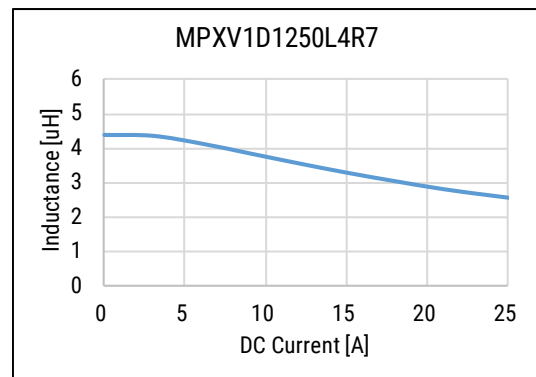
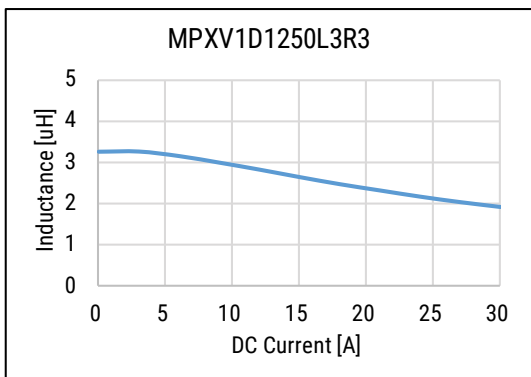
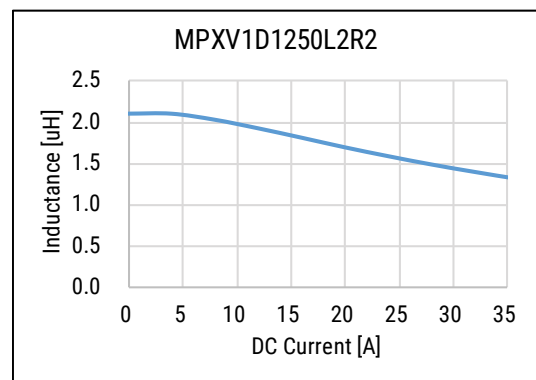
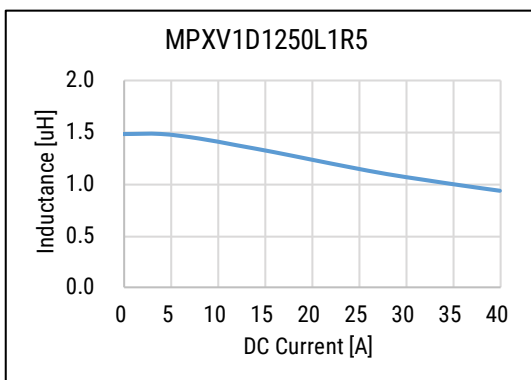
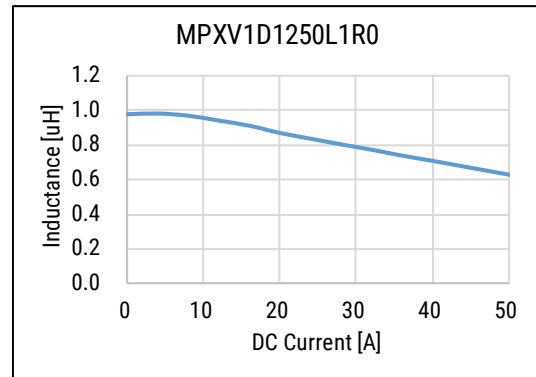
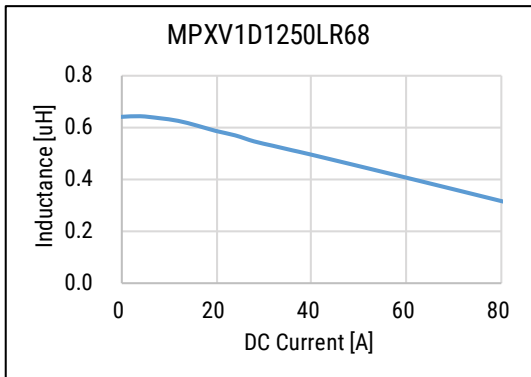
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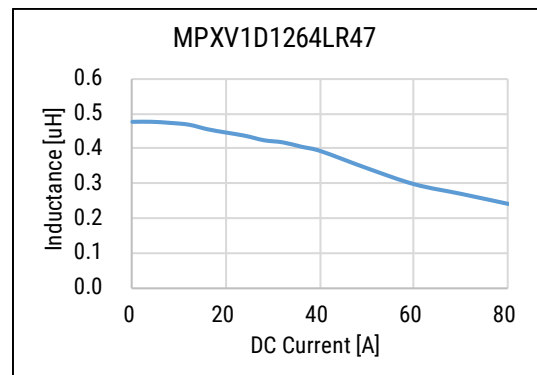
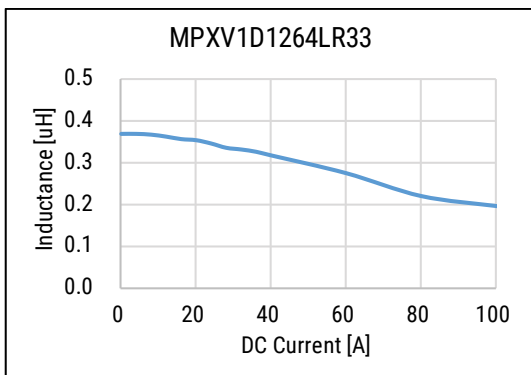
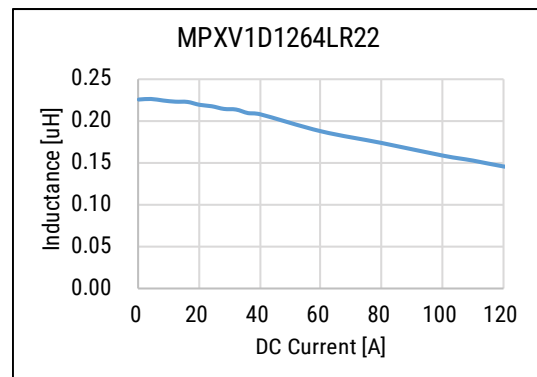
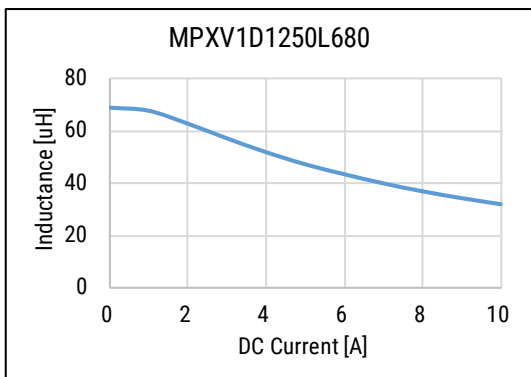
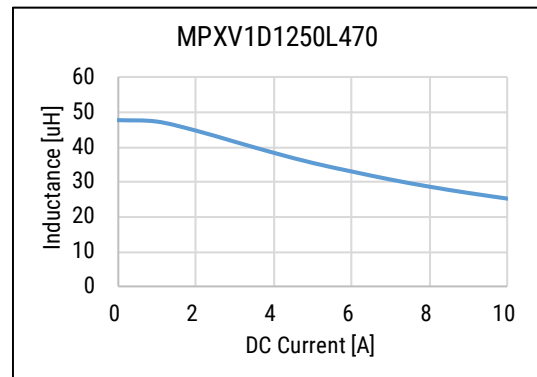
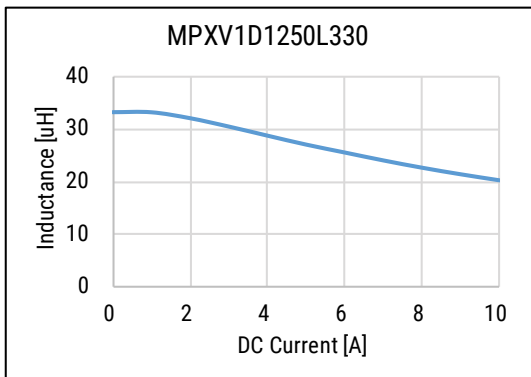
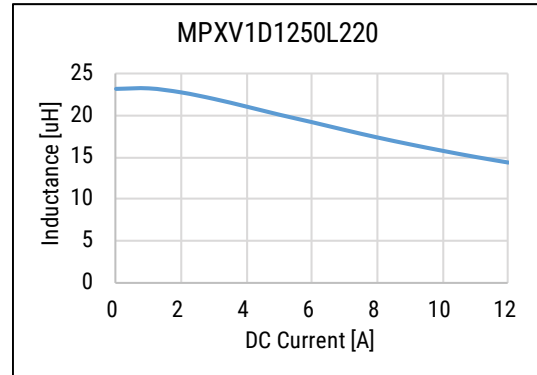
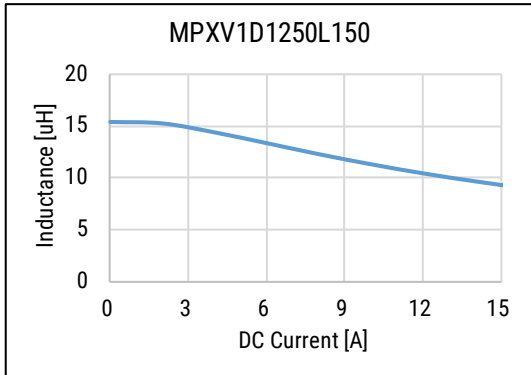
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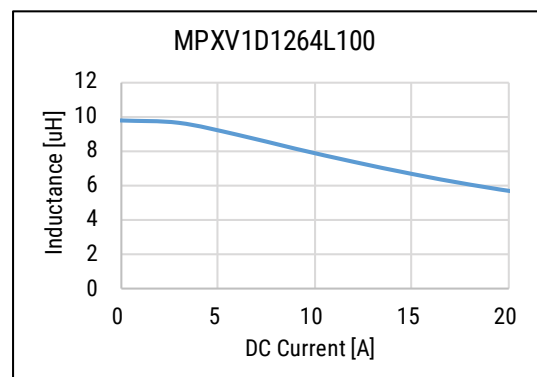
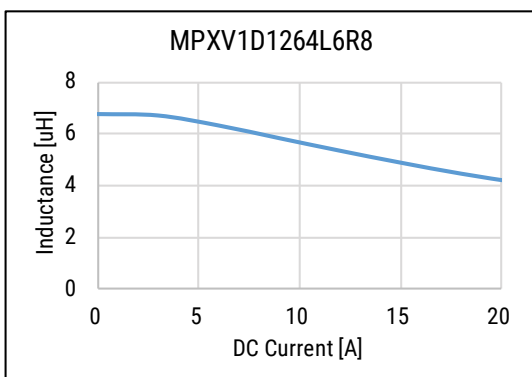
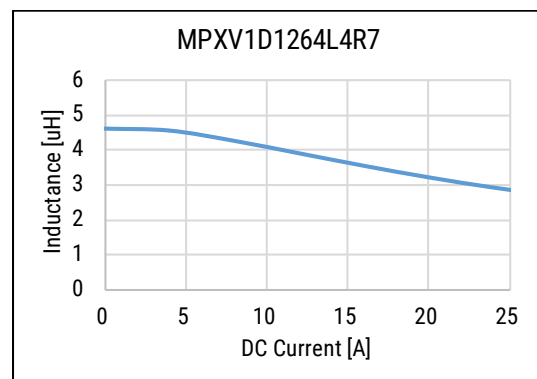
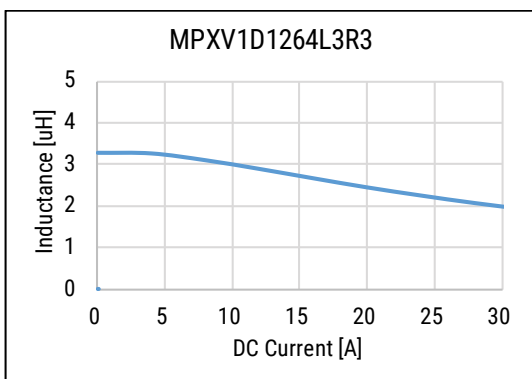
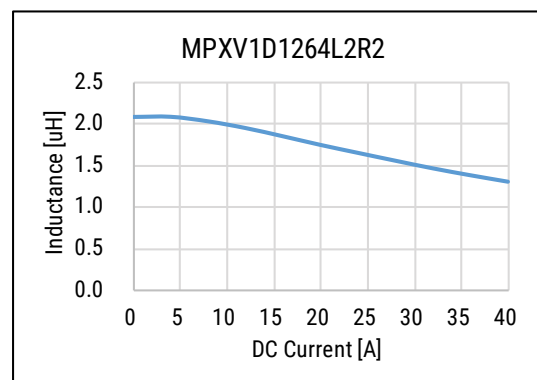
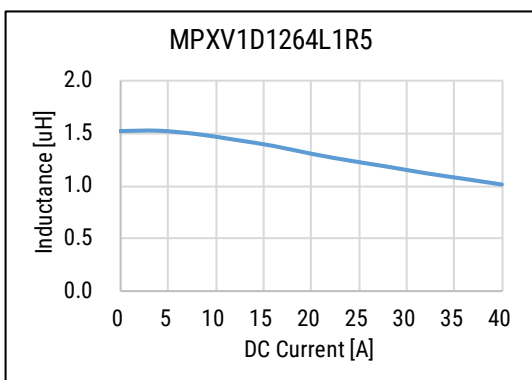
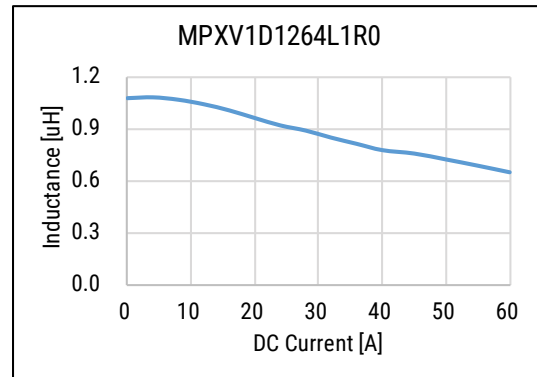
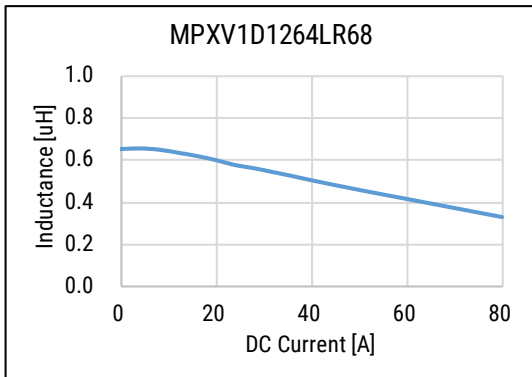
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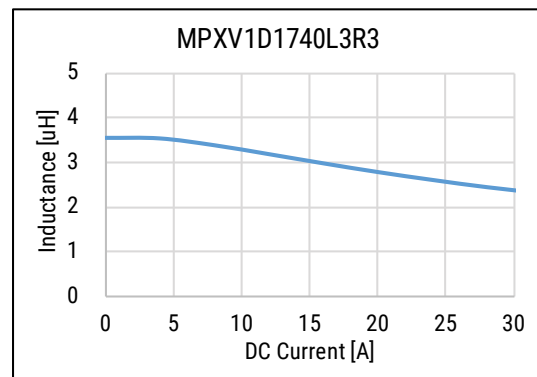
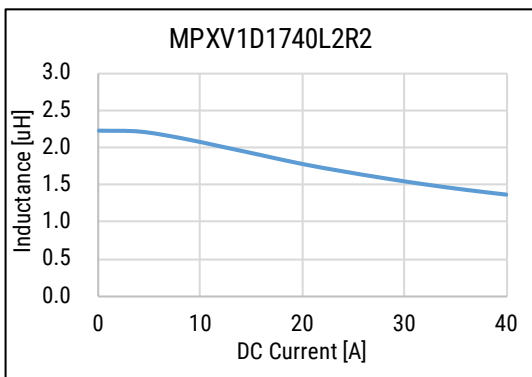
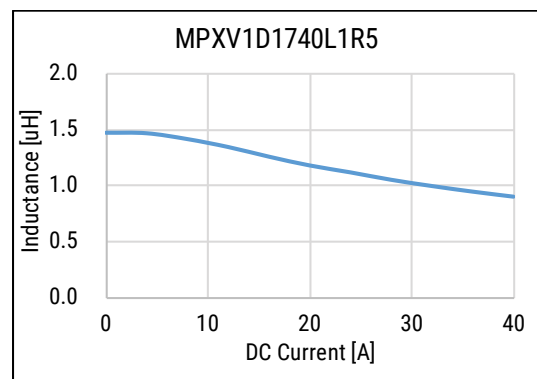
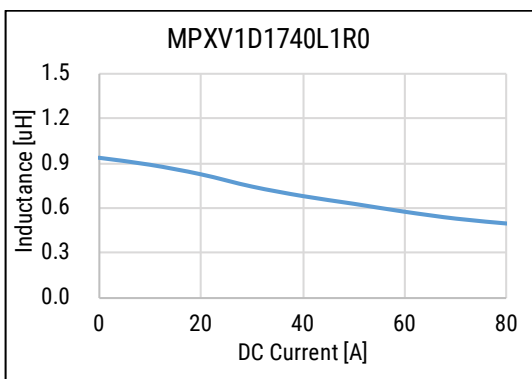
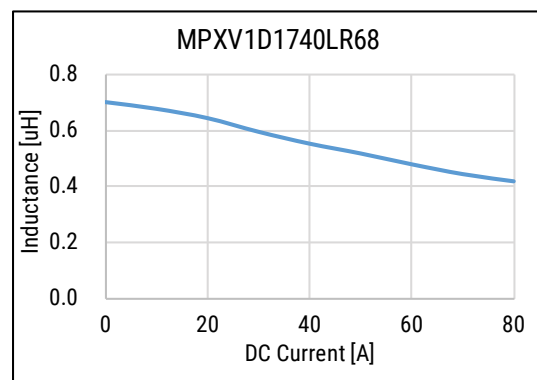
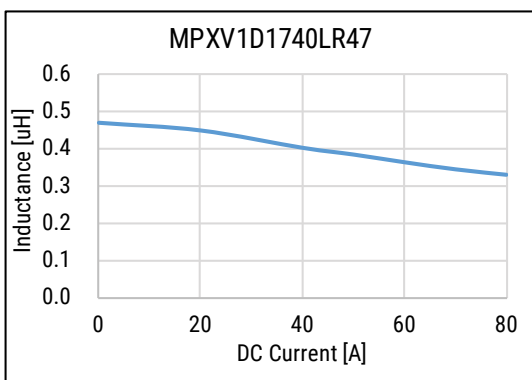
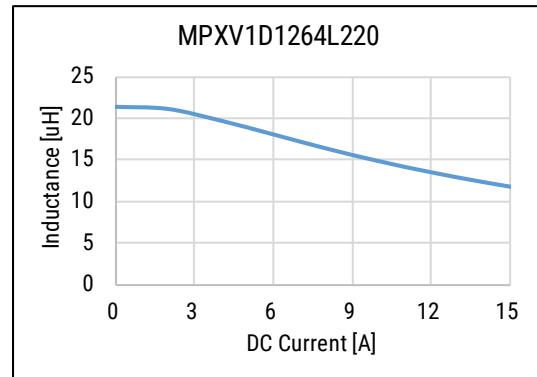
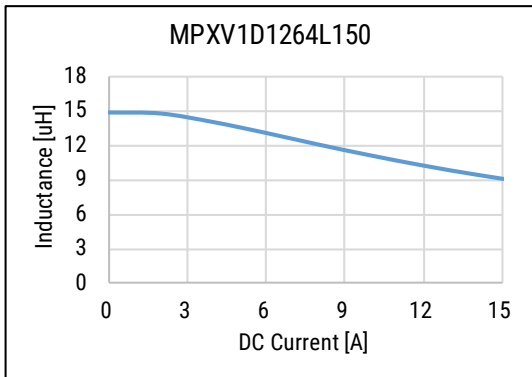
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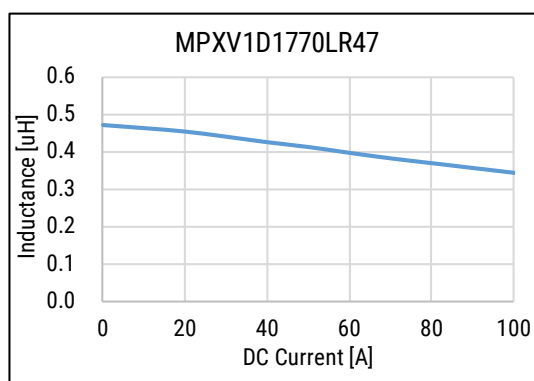
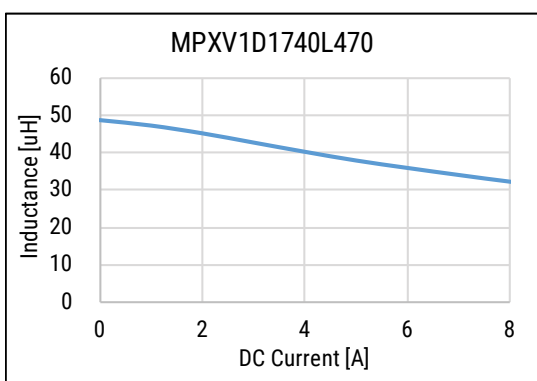
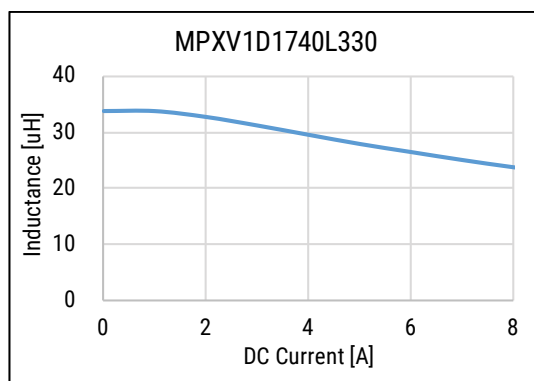
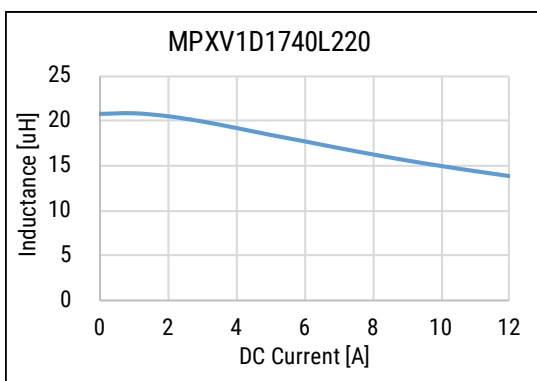
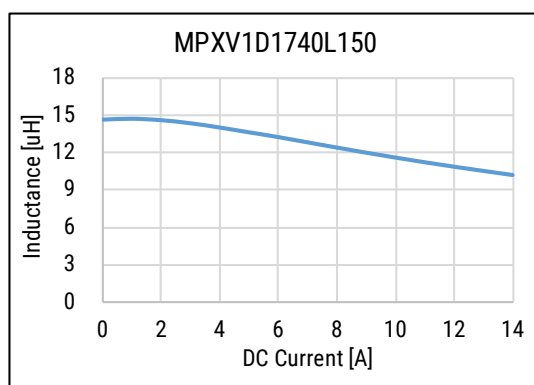
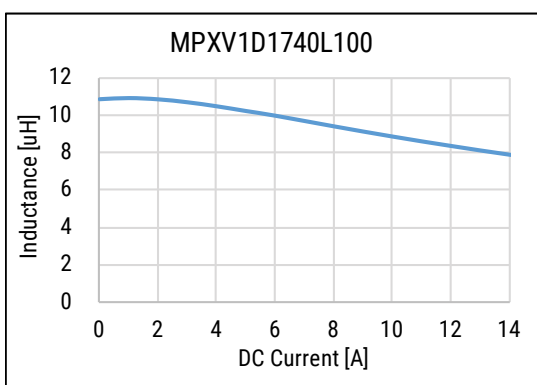
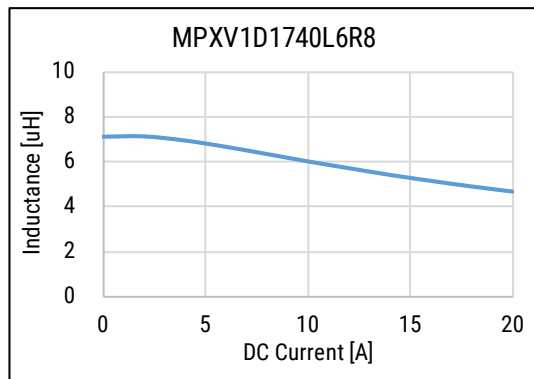
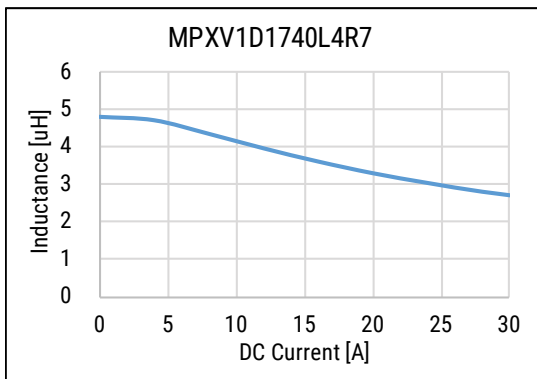
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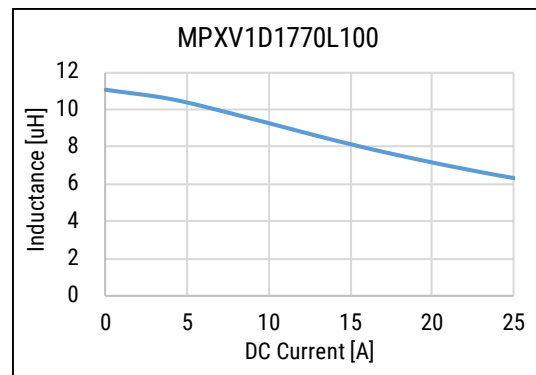
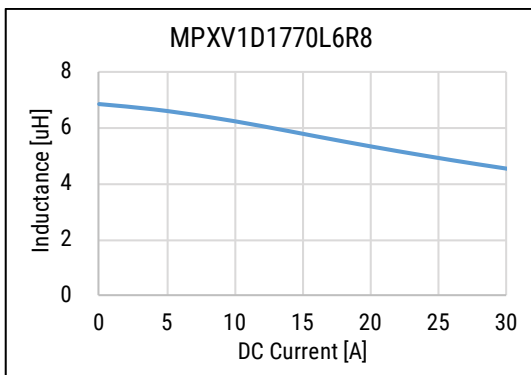
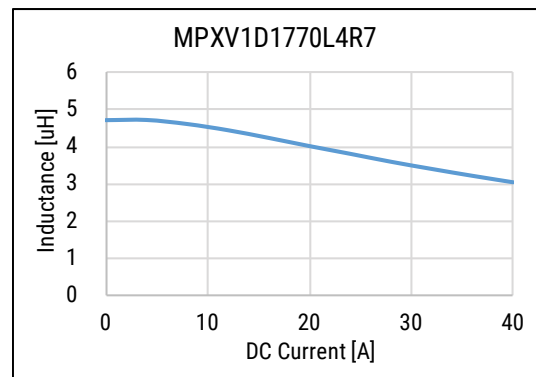
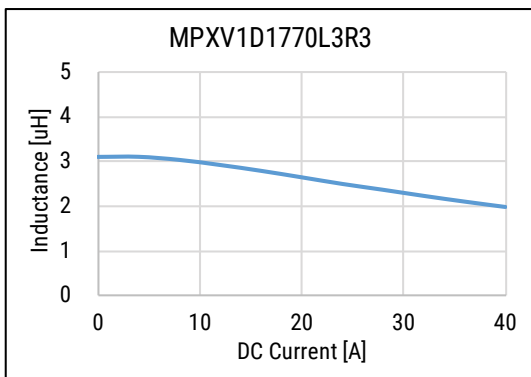
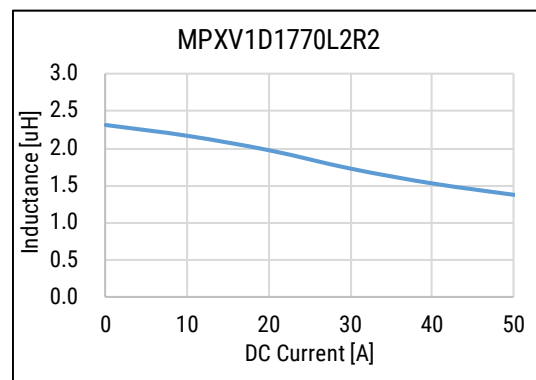
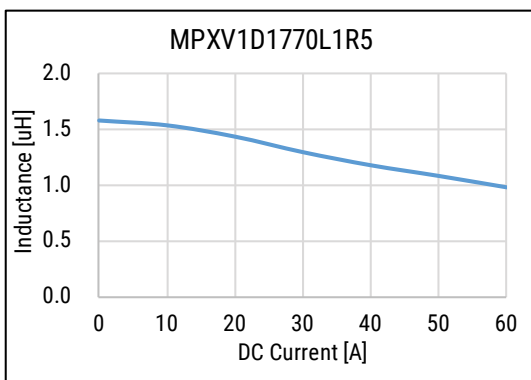
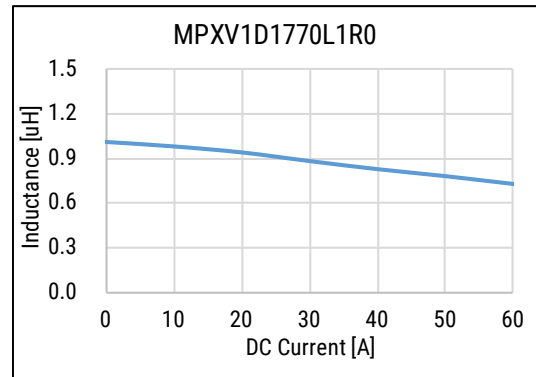
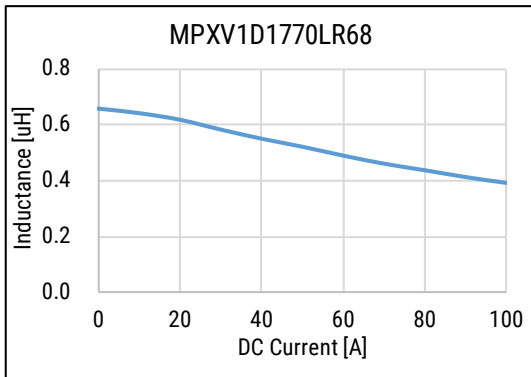
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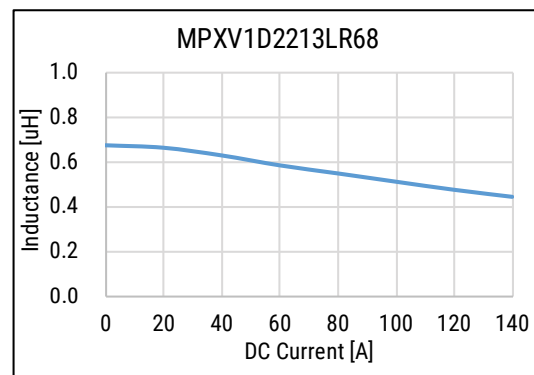
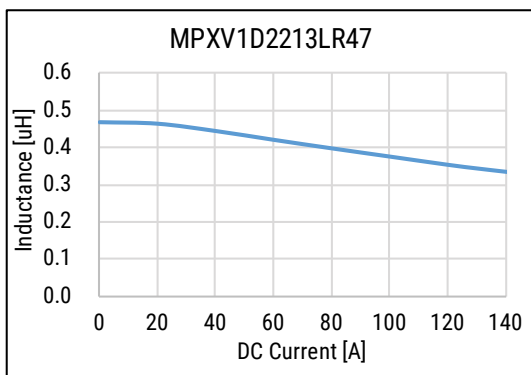
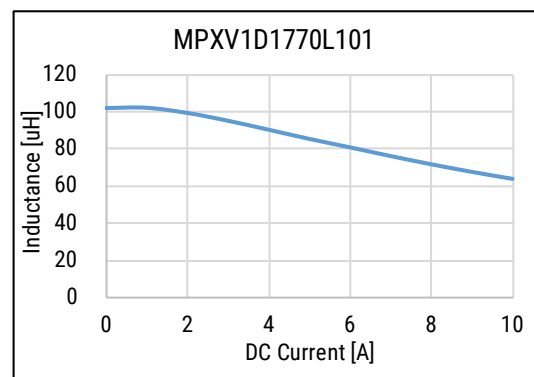
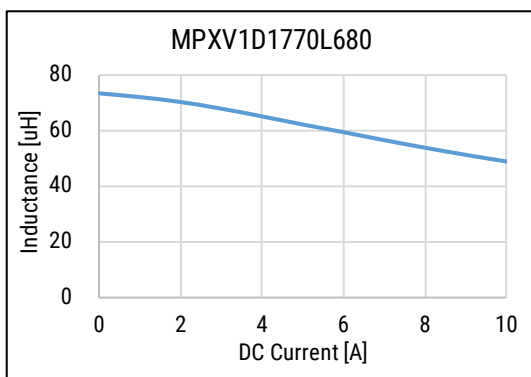
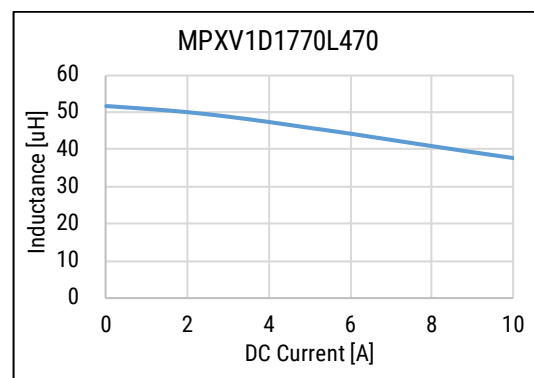
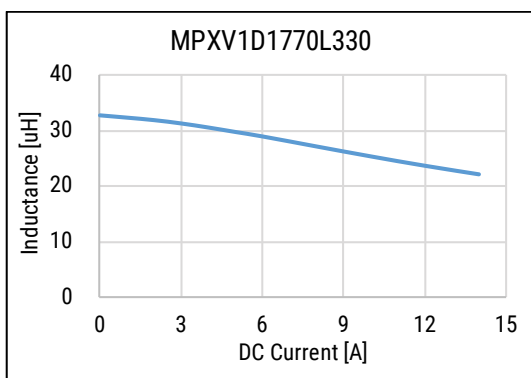
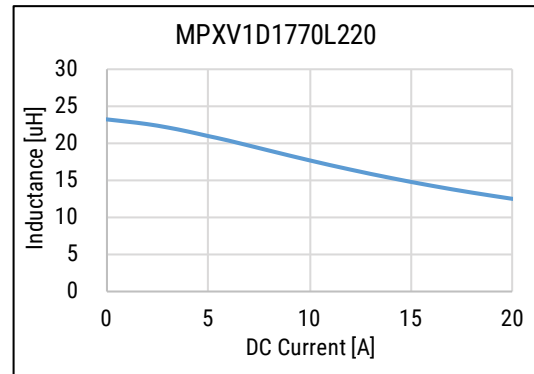
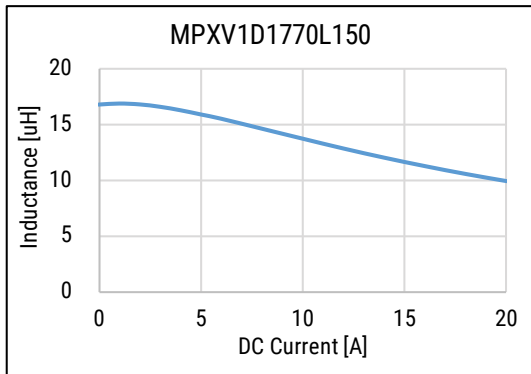
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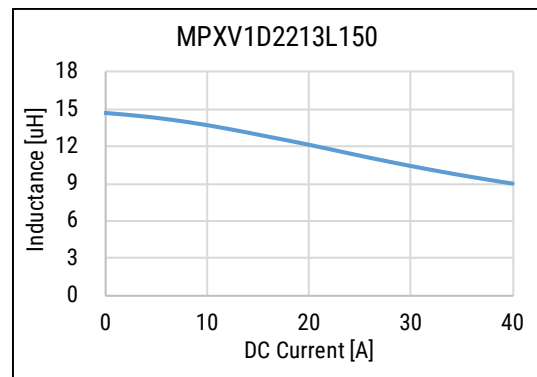
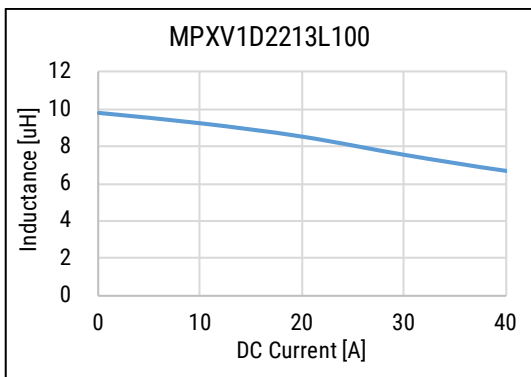
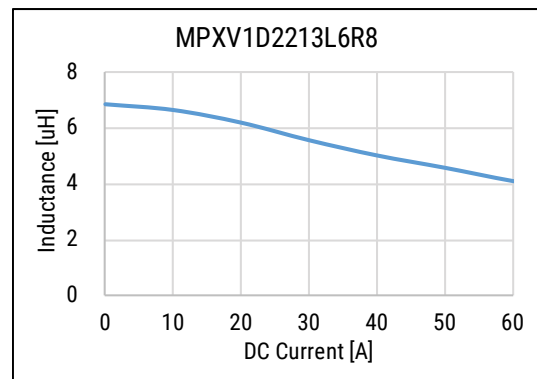
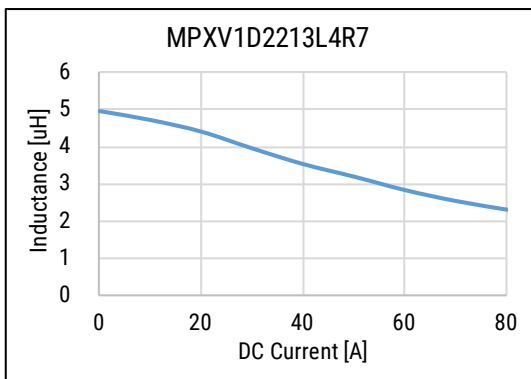
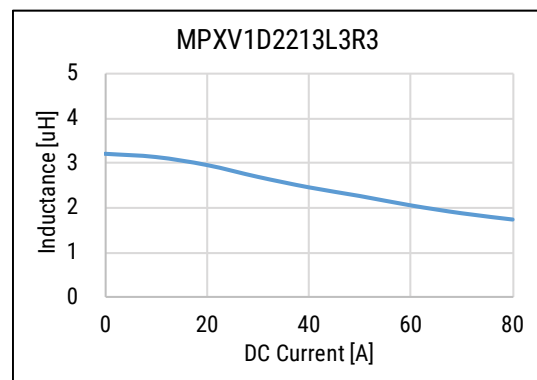
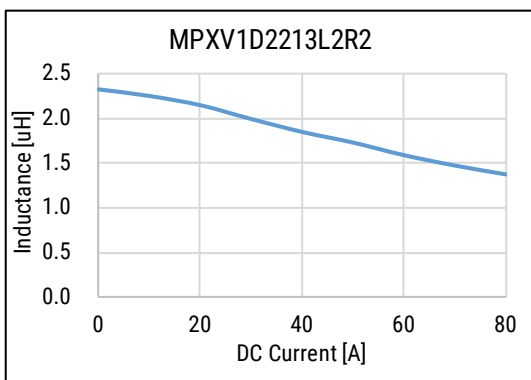
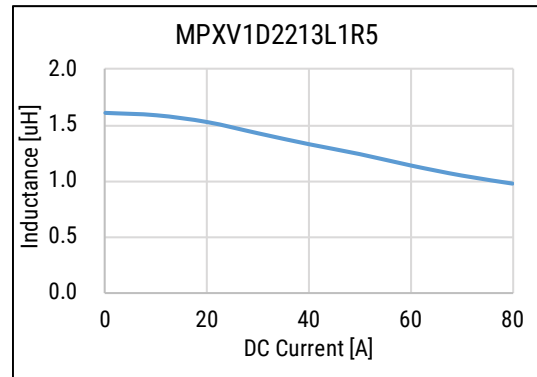
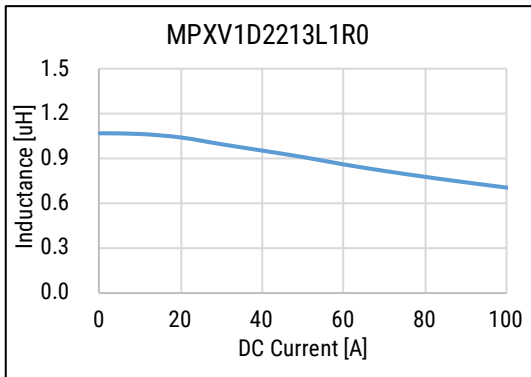
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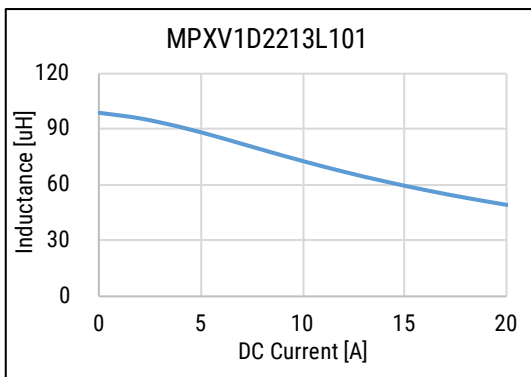
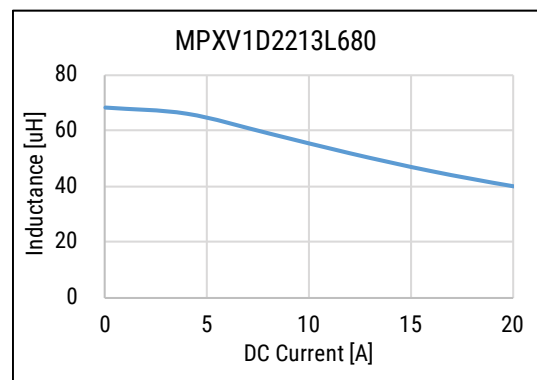
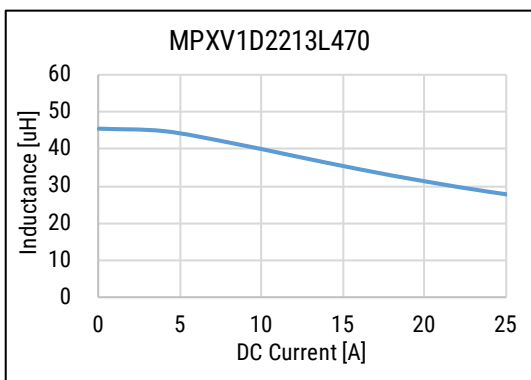
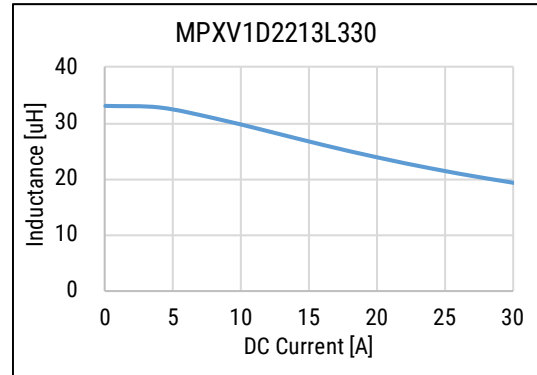
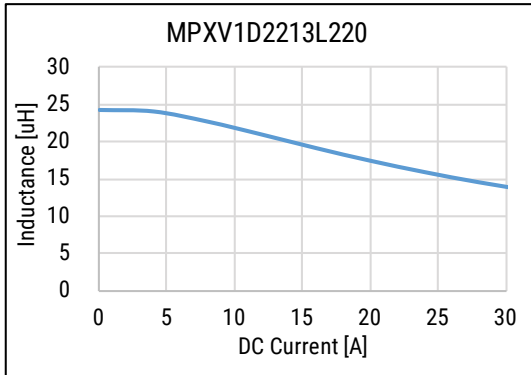
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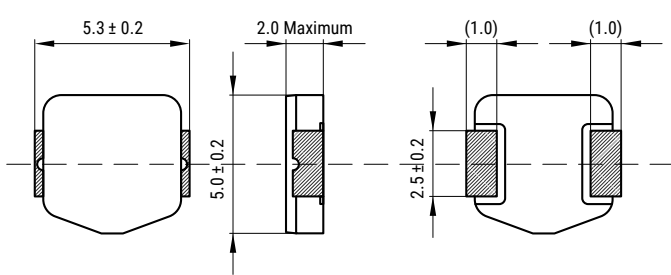
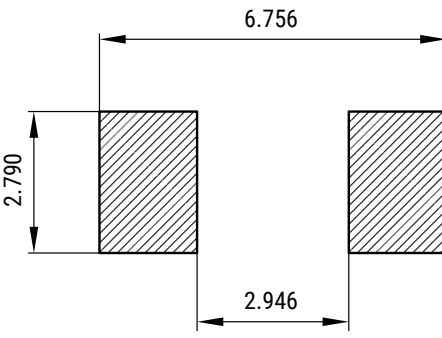
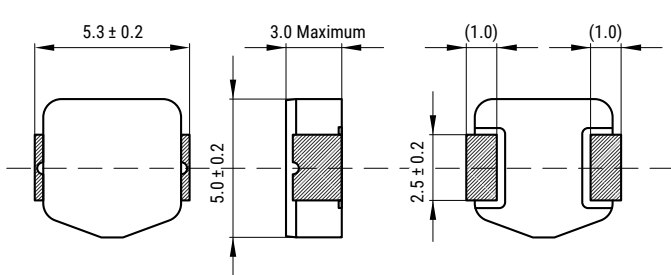
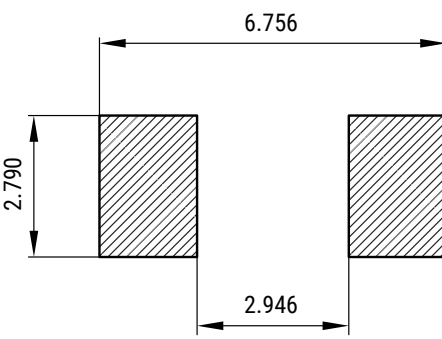
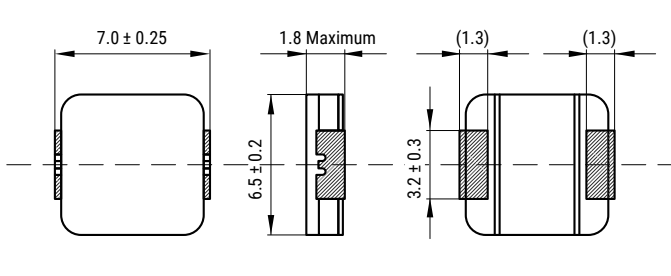
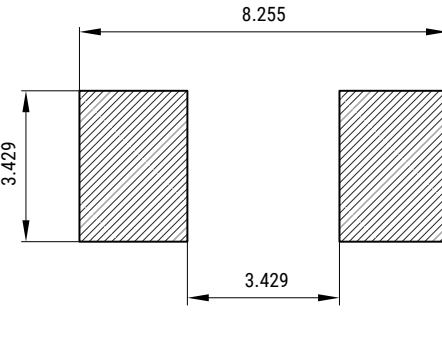
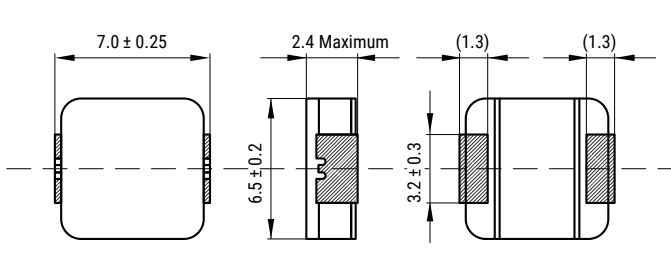
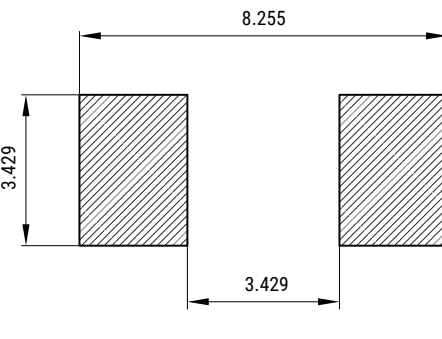
DC-Superposed Characteristics cont.



DC-Superposed Characteristics cont.



Dimensions

| Case Size | Dimensions (mm) | Land Pattern (mm) |
|------------|--|---|
| MPXV1D0520 |  |  |
| MPXV1D0530 |  |  |
| MPXV1D0618 |  |  |
| MPXV1D0624 |  |  |

Dimensions cont.

| Case Size | Dimensions (mm) | Land Pattern (mm) |
|------------|-----------------|-------------------|
| MPXV1D0630 | | |
| MPXV1D0650 | | |
| MPXV1D0830 | | |
| MPXV1D0840 | | |

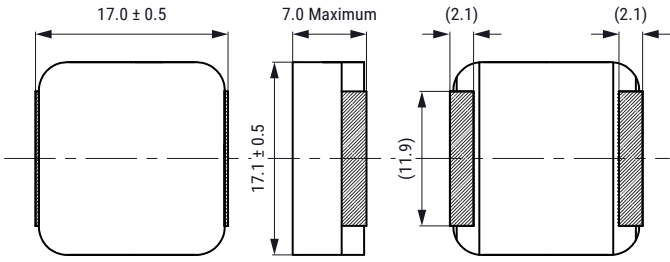
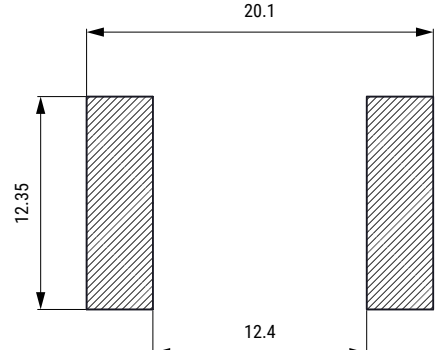
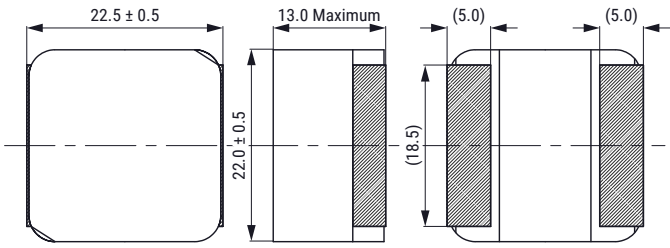
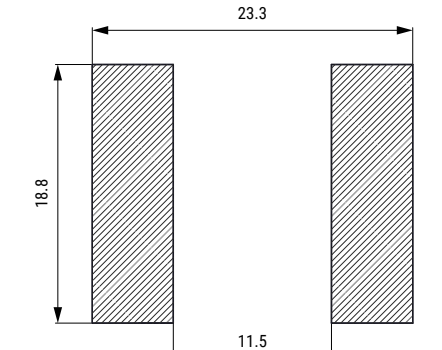
Dimensions cont.

| Case Size | Dimensions (mm) | Land Pattern (mm) |
|--|-----------------|-------------------|
| MPXV1D1040 For values up to 1.5 μ H or below | | |
| MPXV1D1040 For values from 2.2 μ H or above | | |
| MPXV1D1054 | | |
| MPXV1D1235 For values up to 0.47 μ H or below | | |

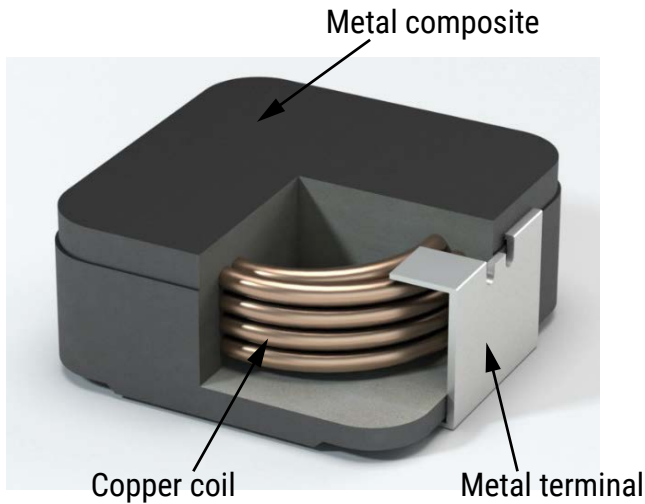
Dimensions cont.

| Case Size | Dimensions (mm) | Land Pattern (mm) |
|--|-----------------|-------------------|
| MPXV1D1235 For values from 0.68 μ H or above | | |
| MPXV1D1250 | | |
| MPXV1D1264 | | |
| MPXV1D1740 | | |

Dimensions cont.

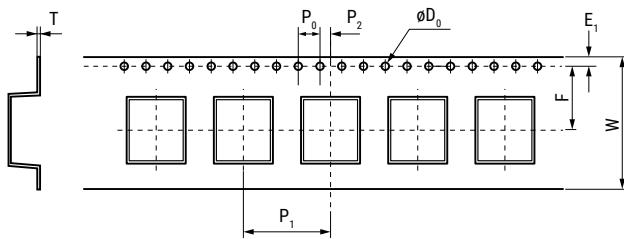
| Case Size | Dimensions (mm) | Land Pattern (mm) |
|------------|--|---|
| MPXV1D1770 |  <p>Technical drawings for MPXV1D1770 showing top, side, and end views with dimensions: 17.0 ± 0.5, 7.0 Maximum, 17.1 ± 0.5, (11.9), (2.1), and (2.1).</p> |  <p>Land pattern diagram for MPXV1D1770 showing dimensions: 20.1, 12.35, and 12.4.</p> |
| MPXV1D2213 |  <p>Technical drawings for MPXV1D2213 showing top, side, and end views with dimensions: 22.5 ± 0.5, 13.0 Maximum, 22.0 ± 0.5, (18.5), (5.0), and (5.0).</p> |  <p>Land pattern diagram for MPXV1D2213 showing dimensions: 23.3, 18.8, and 11.5.</p> |

Construction



Taping Specification

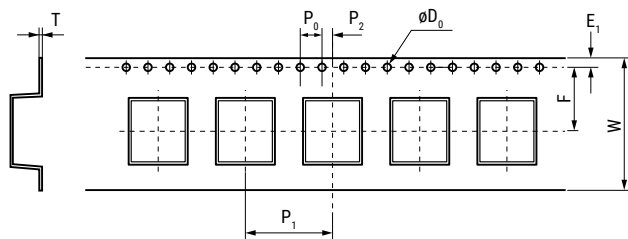
Dimensions of Indented Square Hole Plastic Tape



| Case Size | Reel Quantity | | Dimensions (mm) | | | | | | | | |
|------------|---------------|-----------|-----------------|-------|-------|----------------|----------------|----------------|-----------------|-------|-------|
| | | | W | F | E | P ₁ | P ₂ | P ₀ | øD ₀ | T | |
| MPXV1D0520 | 3,500 | Tolerance | ±0.30 | ±0.10 | ±0.10 | ±0.10 | ±0.10 | ±0.10 | ±0.10 | ±0.10 | ±0.05 |
| | | Nominal | 12.00 | 5.50 | 1.75 | 8.00 | 2.00 | 4.00 | 1.50 | 0.40 | |
| MPXV1D0530 | 2,500 | Tolerance | ±0.30 | ±0.10 | ±0.10 | ±0.10 | ±0.10 | ±0.10 | ±0.10 | ±0.10 | ±0.05 |
| | | Nominal | 12.00 | 5.50 | 1.75 | 8.00 | 2.00 | 4.00 | 1.50 | 0.40 | |
| MPXV1D0618 | 2,500 | Tolerance | ±0.30 | ±0.10 | ±0.10 | ±0.10 | ±0.10 | ±0.10 | ±0.10 | ±0.10 | ±0.05 |
| | | Nominal | 16.00 | 7.50 | 1.75 | 12.00 | 2.00 | 4.00 | 1.50 | 0.40 | |
| MPXV1D0624 | 1,500 | Tolerance | ±0.30 | ±0.10 | ±0.10 | ±0.10 | ±0.10 | ±0.10 | ±0.10 | ±0.10 | ±0.05 |
| | | Nominal | 16.00 | 7.50 | 1.75 | 12.00 | 2.00 | 4.00 | 1.55 | 0.40 | |
| MPXV1D0630 | 1,500 | Tolerance | ±0.30 | ±0.10 | ±0.10 | ±0.10 | ±0.10 | ±0.10 | ±0.10 | ±0.10 | ±0.05 |
| | | Nominal | 16.00 | 7.50 | 1.75 | 12.00 | 2.00 | 4.00 | 1.55 | 0.40 | |
| MPXV1D0650 | 1,000 | Tolerance | ±0.30 | ±0.10 | ±0.10 | ±0.10 | ±0.10 | ±0.10 | ±0.10 | ±0.05 | ±0.05 |
| | | Nominal | 16.00 | 7.50 | 1.75 | 12.00 | 2.00 | 4.00 | 1.55 | 0.40 | |
| MPXV1D0830 | 1,500 | Tolerance | ±0.30 | ±0.10 | ±0.10 | ±0.10 | ±0.10 | ±0.10 | ±0.10 | ±0.05 | ±0.05 |
| | | Nominal | 16.00 | 7.50 | 1.75 | 12.00 | 2.00 | 4.00 | 1.55 | 0.40 | |
| MPXV1D0840 | 1,000 | Tolerance | ±0.30 | ±0.10 | ±0.10 | ±0.10 | ±0.10 | ±0.10 | ±0.10 | ±0.05 | ±0.05 |
| | | Nominal | 16.00 | 7.50 | 1.75 | 12.00 | 2.00 | 4.00 | 1.50 | 0.40 | |

Taping Specification cont.

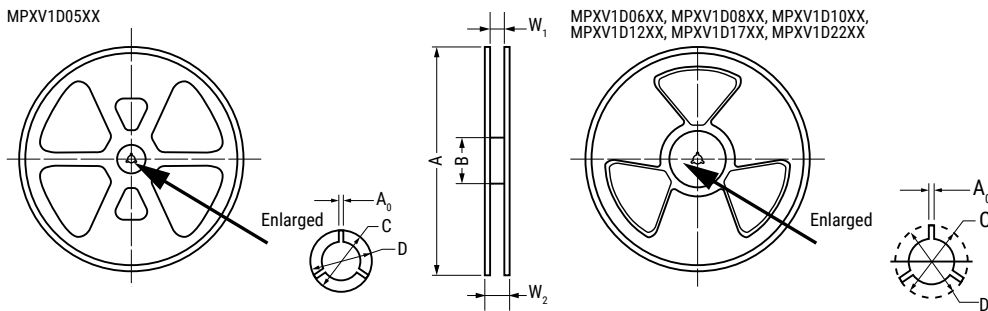
Dimensions of Indented Square Hole Plastic Tape



| Case Size | Reel Quantity | | Dimensions (mm) | | | | | | | | |
|------------|---------------|-----------|-----------------|------|------|----------------|----------------|----------------|-----------------|-------|-------|
| | | | W | F | E | P ₁ | P ₂ | P ₀ | øD ₀ | T | |
| MPXV1D1040 | 500 | Tolerance | ±0.3 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.05 | ±0.05 |
| | | Nominal | 24.0 | 11.5 | 1.75 | 16.0 | 2.0 | 4.0 | 1.55 | 0.4 | |
| MPXV1D1054 | 500 | Tolerance | ±0.3 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.05 | ±0.05 |
| | | Nominal | 24.0 | 11.5 | 1.75 | 16.0 | 2.0 | 4.0 | 1.55 | 0.4 | |
| MPXV1D1235 | 500 | Tolerance | ±0.3 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.05 | ±0.05 |
| | | Nominal | 24.0 | 11.5 | 1.75 | 24.0 | 2.0 | 4.0 | 1.55 | 0.4 | |
| MPXV1D1250 | 250 | Tolerance | ±0.3 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.05 | ±0.05 |
| | | Nominal | 24.0 | 11.5 | 1.75 | 24.0 | 2.0 | 4.0 | 1.55 | 0.4 | |
| MPXV1D1264 | 250 | Tolerance | ±0.3 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.05 | ±0.05 |
| | | Nominal | 24.0 | 11.5 | 1.75 | 24.0 | 2.0 | 4.0 | 1.55 | 0.4 | |
| MPXV1D1740 | 100 | Tolerance | ±0.3 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.05 |
| | | Nominal | 32.0 | 14.2 | 1.75 | 24.0 | 2.0 | 4.0 | 1.50 | 0.5 | |
| MPXV1D1770 | 100 | Tolerance | ±0.3 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.05 |
| | | Nominal | 32.0 | 14.2 | 1.75 | 24.0 | 2.0 | 4.0 | 1.50 | 0.5 | |
| MPXV1D2213 | 50 | Tolerance | ±0.3 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.05 |
| | | Nominal | 44.0 | 20.2 | 1.75 | 32.0 | 2.0 | 4.0 | 1.50 | 0.5 | |

Reel Specifications

Reel Dimensions



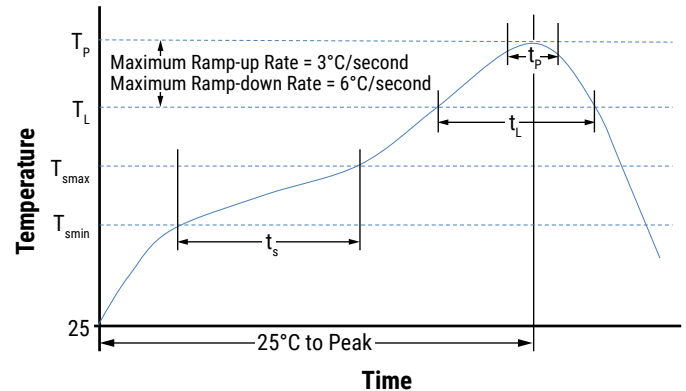
| Case Size | | Dimensions (mm) | | | | | | |
|------------|-----------|-----------------|------|-------|-------|----------------|----------------|----------------|
| | | A | B | C | D | A ₀ | W ₁ | W ₂ |
| MPXV1D0520 | Tolerance | ±2.0 | ±2.0 | ±0.2 | ±0.8 | ±0.5 | | |
| | Nominal | ø330 | ø80 | ø13.0 | ø21.0 | 2.0 | 13.5 | 17.5 |
| MPXV1D0530 | Tolerance | ±2.0 | ±2.0 | ±0.2 | ±0.8 | ±0.5 | | |
| | Nominal | ø330 | ø80 | ø13.0 | ø21.0 | 2.0 | 13.5 | 17.5 |
| MPXV1D0618 | Tolerance | ±2.0 | ±2.0 | ±0.2 | ±0.8 | ±0.5 | | |
| | Nominal | ø330 | ø100 | ø13.2 | ø21.5 | 2.5 | 16.9 | 21.3 |
| MPXV1D0624 | Tolerance | ±2.0 | ±2.0 | ±0.2 | ±0.8 | ±0.5 | | |
| | Nominal | ø330 | ø100 | ø13.2 | ø21.5 | 2.5 | 16.9 | 21.3 |
| MPXV1D0630 | Tolerance | ±2.0 | ±2.0 | ±0.2 | ±0.8 | ±0.5 | | |
| | Nominal | ø330 | ø100 | ø13.2 | ø21.5 | 2.5 | 16.9 | 21.3 |
| MPXV1D0650 | Tolerance | ±2.0 | ±2.0 | ±0.2 | ±0.8 | ±0.5 | | |
| | Nominal | ø330 | ø100 | ø13.2 | ø21.5 | 2.5 | 16.9 | 21.3 |
| MPXV1D0830 | Tolerance | ±2.0 | ±2.0 | ±0.2 | ±0.8 | ±0.5 | | |
| | Nominal | ø330 | ø100 | ø13.2 | ø21.5 | 2.5 | 16.9 | 21.3 |
| MPXV1D0840 | Tolerance | ±2.0 | ±2.0 | ±0.2 | ±0.8 | ±0.5 | | |
| | Nominal | ø330 | ø100 | ø13.2 | ø21.5 | 2.5 | 16.9 | 21.3 |
| MPXV1D1040 | Tolerance | ±3.0 | ±2.0 | ±0.5 | ±0.8 | ±0.5 | | |
| | Nominal | ø330 | ø100 | ø13.0 | ø21.5 | 2.6 | 17.0 | 20.6 |
| MPXV1D1054 | Tolerance | ±3.0 | ±2.0 | ±0.5 | ±0.8 | ±0.5 | | |
| | Nominal | ø330 | ø100 | ø13.0 | ø21.5 | 2.6 | 17.0 | 20.6 |
| MPXV1D1235 | Tolerance | ±3.0 | ±2.0 | ±0.5 | ±0.8 | ±0.5 | | |
| | Nominal | ø330 | ø100 | ø13.0 | ø21.5 | 2.6 | 17.0 | 20.6 |
| MPXV1D1250 | Tolerance | ±3.0 | ±2.0 | ±0.5 | ±0.8 | ±0.5 | | |
| | Nominal | ø330 | ø100 | ø13.0 | ø21.5 | 2.6 | 17.0 | 20.6 |
| MPXV1D1264 | Tolerance | ±3.0 | ±2.0 | ±0.5 | ±0.8 | ±0.5 | | |
| | Nominal | ø330 | ø100 | ø13.0 | ø21.5 | 2.6 | 17.0 | 20.6 |
| MPXV1D1740 | Tolerance | ±3.0 | ±2.0 | ±0.2 | ±0.8 | ±0.5 | | |
| | Nominal | ø330 | ø100 | ø13.0 | ø21.0 | 2.0 | 32.4 | 38.4 |
| MPXV1D1770 | Tolerance | ±3.0 | ±2.0 | ±0.2 | ±0.8 | ±0.5 | | |
| | Nominal | ø330 | ø100 | ø13.0 | ø21.0 | 2.0 | 32.4 | 38.4 |
| MPXV1D2213 | Tolerance | ±3.0 | ±2.0 | ±0.2 | ±0.8 | ±0.5 | | |
| | Nominal | ø330 | ø100 | ø13.0 | ø21.0 | 2.0 | 44.4 | 50.4 |

Soldering Process

Recommended Reflow Soldering Profile

Reference ICP/JEDEC J-STD-020E

| Profile Feature | Pb-Free Assembly |
|---|--|
| Preheat/Soak | |
| Temperature Minimum (T_{smin}) | 150°C |
| Temperature Maximum (T_{smax}) | 200°C |
| Time (t_s) from T_{smin} to T_{smax} | 60 – 120 seconds |
| Ramp-Up Rate (T_L to T_p) | 3°C/second maximum |
| Liquidous Temperature (T_L) | 217°C |
| Time Above Liquidous (t_L) | 60 – 150 seconds |
| Peak Temperature (T_p) | 260°C for MPXV1D0520, 0618, 0624 250°C for MPXV1D0530, 0630, 0650, 0830, 0840 245°C for MPXV1D1040, 1054, 1235, 1250, 1264, 1740, 1770, 2213 |
| Time within 5°C of Maximum Peak Temperature (t_p) | 30 seconds maximum |
| Ramp-Down Rate (T_p to T_L) | 6°C/second maximum |
| Time 25°C to Peak Temperature | 8 minutes maximum |



Handling Precautions

Inductors should be stored in normal working environments. While the inductors themselves are quite robust in other environments, exposure to high temperatures, high humidity, corrosive atmospheres, and long-term storage degrades solderability.

KEMET recommends that maximum storage temperature not exceed 40°C and maximum storage humidity not exceed 70% relative humidity. Atmospheres should be free of chlorine-bearing and sulfur-bearing compounds. Temperature fluctuations should be minimized to avoid condensation on the parts.

For optimized solderability, inductor stock should be used promptly, preferably within six months of receipt.

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